

# **EPA Jacket 100-1466**

## **Vol.1**



## **Registration Decision of the New Active Ingredient Bicyclopyrone**

**An Herbicide for Use on Corn and Establishment of  
Tolerances for Corn (field, pop, and sweet) and Imported  
Sugarcane**

Approved by: \_\_\_\_\_

Jack E. Housenger, Director  
Office of Pesticide Programs

Date: \_\_\_\_\_

4/24/15

## Summary

This document announces that the U.S. Environmental Protection Agency (EPA) has completed its evaluation of the new herbicide bicyclopyrone and has concluded that it meets the regulatory standard under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Five products will be registered under Section 3(c)(7)(C) of FIFRA: one technical product, two manufacturing-use products (Bicyclopyrone Wet Paste Manufacturing Use Product and Bicyclopyrone Wet Paste II Manufacturing Use Product), and two end-use products (SYN-A16003 Herbicide and Acuron™ Herbicide). The product Acuron™ will contain 0.65% bicyclopyrone, 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor. The product SYN-A16003 will contain 18.5% bicyclopyrone. The labels specify that bicyclopyrone is generally to be applied once annually as a pre-emergent application to corn; however, a split application for pre-emergent and early post-emergent is allowed, provided the maximum single and annual application rates are not exceeded. Identical rates and use patterns apply to both end use products.

In accordance with 3(c)(7)(C) of FIFRA the agency has determined that registering bicyclopyrone is in the public interest. Acuron™ can control weeds with a single pre-emergent application that may not require additional post-emergent applications. Acuron™ will be labeled for difficult to control weeds with a lower rate of atrazine, S-metolachlor, and mesotrione; resulting in decreases in the amount of atrazine that will be applied to corn as well as smaller reductions in S-metolachlor and mesotrione. Acuron™'s penetration into the market will result in the reduction of other Syngenta atrazine products, resulting in a reduction of 3.6 million pounds of atrazine per year on acres that would have been treated with those products. The agency is requiring Syngenta to achieve this reduction no later than the 2020 growing season. Labels have language including surface and ground water advisories that stress the potential for runoff management after treatment and statements intended to preclude leaching to groundwater. Language is on the label that is intended to keep the pesticide on the intended treatment area and instructs users of applicator responsibilities and specific techniques to reduce the possibility of spray drift. Aerial application is prohibited and a 25-foot downwind buffer is required to avoid drift to non-target areas. End use labels also contain guidance and information which will slow the development of resistance to the target weeds.

## Background

On September 23, 2013, EPA received an application to register products containing the new active ingredient, bicyclopyrone (CAS Number 352010-68-5), an herbicide for use on corn (field, pop, and sweet) from Syngenta Crop Protection. Syngenta also submitted applications for simultaneous review to the Pest Management Regulatory Agency (PMRA) of Canada and the Australian Pesticides and Veterinary Medicines Authority (APVMA). The EPA, PMRA, and APVMA combined scientific and regulatory expertise to conduct a joint review. Each country's team of scientists peer-reviewed the primary reviews of their counterparts. While continuing to consult and coordinate, human health and ecological risk assessments were developed by each country individually.

Bicyclopyrone is an herbicide for use on corn with the establishment of tolerances on corn and imported sugarcane. Bicyclopyrone is to be used on corn for the selective contact and residual control of weeds in field corn, seed corn, silage corn, yellow popcorn, and sweet corn. The maximum single and maximum annual application rates are 0.045 lb ai/acre. One pre-emergent application is allowed, but the labels do allow for split applications (one pre-emergent and one early post-emergent) as long as the maximum single and annual application rates are not exceeded. The minimum retreatment interval (RTI) is 14 days; the pre-harvest interval (PHI), is 45 days.

Acuron™ contains 0.65% bicyclopyrone, 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor giving the product three different modes of actions (MoA). The product SYN-A16003 contains 16.5% bicyclopyrone and only one MoA. The label for Acuron™ contains information on each of the three different modes of actions. The label for SYN-A16003 contains information on the MoA for bicyclopyrone. Bicyclopyrone and mesotrione are members of the hydroxyphenylpyruvate dioxygenase (HPPD) inhibitor class of herbicides (Herbicide Resistance Action Committee (HRAC) Group 27) and belong to the triketone subclass of chemistry. Bicyclopyrone and mesotrione inhibit the enzyme HPPD and block biosynthesis in plants. Atrazine is a member of the triazine family of herbicides (HRAC Group 5). Atrazine works by inhibiting photosynthesis. S-Metolachlor is a member of the chloroacetamide family of herbicides (HRAC Group 15). S-Metolachlor is a seedling shoot growth inhibitor.

The maximum single and maximum total annual rates for Acuron™ are 3 quarts per acre. When applied at this rate, Acuron™ will apply 0.045 lb ai/acre of bicyclopyrone, 0.18 lb ai/acre of mesotrione, 0.75 lb ai/acre of atrazine, and 1.605 lb ai/acre of S-metolachlor per single application and total per year. The maximum total annual rates on corn, allowed by the agency, for mesotrione is 0.24 lb ai/acre, atrazine is 2.5 lb ai/acre, and S-metolachlor is 3.71 lb ai/acre. The maximum single and maximum total annual rates for Acuron™ are below the maximum use rates allowed by the agency for mesotrione, atrazine, and S-metolachlor.

## Evaluation

In evaluating a pesticide registration application, the EPA assesses a wide variety of exposure information (*i.e.*, where and how the pesticide is used) and environmental fate (*i.e.*, how the chemical will move in the environment) and toxicity studies (*i.e.*, effects on humans and other non-target organisms) to determine the likelihood of adverse effects (*i.e.*, risk) from exposures associated with the proposed use of the product. Risk assessments are developed to evaluate the environmental fate of the compound as well as how it might affect a wide range of non-target organisms including humans, terrestrial and aquatic wildlife and plants. On the basis of these assessments, EPA evaluates and approves language for each pesticide label to ensure the directions for use and safety measures are appropriate to mitigate any potential risk. The pesticide's label helps to communicate essential limitations and mitigations that are necessary for public safety. It is a violation of federal law to use a pesticide in a way that conflicts with the label.



## Assessment of Risk to Human Health

EPA requires a wide range of studies in order to assess a pesticide. Both bicyclopyrone (active ingredient specific) and Acuron™ (mixture specific) fall in the lowest acute toxicity category of IV via the eye, oral, dermal, and inhalation routes. The labeling precautionary signal word is "CAUTION" for all products. Atrazine also shows low acute toxicity data. The acute toxicity effects are similar and do not indicate a synergistic effect for atrazine and bicyclopyrone for mammals. The table below summarizes the toxicological endpoints used in the human health risk assessment:

Summary of Toxicological Doses and Endpoints for Bicyclopyrone for Use in Human Health Risk Assessments.				
Exposure/Scenario	POD	Uncertainty/FQPA Safety Factors	RfD, PAD, LOC for Risk Assessment	Study and Toxicological Effects
Acute Dietary (General Population, including Infants and Children)	No endpoint attributable to a single dose and appropriate for the U.S. general population was seen in the bicyclopyrone toxicological database; therefore, an acute dietary point of departure for the general U.S. population was not established.			
Acute Dietary (Females 13-49 years of age)	LOAEL = 10 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X FQPA SF /UF <sub>L</sub> = 10X	Acute RfD = 0.01 mg/kg/day aPAD = 0.01 mg/kg/day	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).
Chronic Dietary (All Populations)	LOAEL = 0.28 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X FQPA SF/UF <sub>L</sub> = 10X	Chronic RfD = 0.00028 mg/kg/day cPAD = 0.00028 mg/kg/day	<b>Carcinogenicity (rat)</b> LOAEL = 0.28/0.35 mg/kg/day (M/F) based on a dose dependent increase in the incidence of opaque eyes and corneal damage in both sexes compared to controls, an increased incidence of thyroid follicular hyperplasia in males, and an increased incidence of chronic progressive nephropathy in the kidneys of males.
Dermal Short- (1-30 days) and Intermediate-Term (1-6 months)	LOAEL = 10 mg/kg/day DAF = 20.44%	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X UF <sub>L</sub> = 10X	Occupational LOC for MOE = 1000	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).
Inhalation Short- (1-30 days) and Intermediate-Term (1-6 months)	LOAEL = 10 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X UF <sub>L</sub> = 10X	Occupational LOC for MOE = 1000	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).

Summary of Toxicological Doses and Endpoints for Bicyclopyrone for Use in Human Health Risk Assessments.				
Exposure/ Scenario	POD	Uncertainty/FQP A Safety Factors	RfD, PAD, LOC for Risk Assessment	Study and Toxicological Effects
Cancer (oral, dermal, inhalation)	Classification: "Suggestive evidence of cancer" based on the presence of rare ocular tumors in male rats. Quantification of bicyclopyrone's carcinogenic potential is not required. The Cancer Assessment Review Committee (CARC) recommended using a non-linear approach ( <i>i.e.</i> , RfD) that will adequately account for all chronic toxicity, including carcinogenicity that could result from exposure to bicyclopyrone.			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF<sub>A</sub> = extrapolation from animal to human (interspecies). UF<sub>H</sub> = potential variation in sensitivity among members of the human population (intraspecies). UF<sub>L</sub> = use of a LOAEL to extrapolate a NOAEL. FQPA SF = FQPA Safety Factor. PAD = population-adjusted dose (a = acute, c = chronic). DAF = dermal absorption factor. RfD = reference dose. MOE = Margin of Exposure. LOC = Level of Concern.

The acute and chronic analyses assumed tolerance-level residues (acute analysis) or average field trial residues (chronic analysis), 100% crop-treated (CT), and modeled drinking water estimates. Since adequate processing studies have been submitted, which indicate that residues do not concentrate in corn or sugarcane commodities, the Dietary Exposure Evaluation Model (DEEM ver. 7.81) default processing factors for these commodities were reduced to 1. The resulting acute [2.9% acute population-adjusted dose (aPAD) for females 13 - 49 years old] and chronic [ $\leq$  91% chronic population-adjusted dose (cPAD); children (1 - 2 years old) were the most highly exposed subgroup] dietary risk estimates are not of concern. The occupational handler exposure and risk estimates indicate that the short- and intermediate-term dermal and inhalation combined margins of exposure (MOEs) are not of concern (*i.e.*,  $\text{MOE} \geq 1000$ ) with baseline attire (*i.e.*, single layer of clothing, no gloves, and no respirator; all MOEs  $\geq 1,700$ ). The occupational post-application dermal exposure and risk estimates are greater than the level of concern of 1000 on the day of application, ranging from 1,800 to 49,000 depending on crop and activity.

### Assessment of Ecological Risk

Bicyclopyrone is a relatively soluble, nonvolatile compound that is stable to hydrolysis and is expected to be very highly mobile in soil. Bicyclopyrone photodegrades on surface soil, with half-lives ranging from 4- to 13-days. It is slightly persistent in aerobic soil, metabolizing to multiple organic transformation products and carbon dioxide. It is stable in anaerobic soil and anaerobic aquatic systems, and degrades very slowly in aerobic aquatic systems, with half-lives of 393 - 681 days. Bicyclopyrone photodegrades slowly in water, with half-lives of 11 to 75 days. The new active ingredient is not expected to bioaccumulate in aquatic and terrestrial organisms. Bicyclopyrone may move to groundwater via leaching, and may move to surface water bodies via spray drift and runoff of dissolved or sorbed residues.

Bicyclopyrone is classified as slightly to practically non-toxic to freshwater and estuarine/marine fish (and to aquatic-phase amphibians for which freshwater fish serve as surrogates) as well as to freshwater invertebrates, but is moderately toxic to estuarine/marine invertebrates on an acute

exposure basis. Chronic effects were not observed in either the freshwater fish early life stage toxicity test or the freshwater invertebrate full life cycle test after exposure to bicyclopyrone. No chronic estuarine/marine fish or invertebrate studies were submitted and therefore acute-to-chronic ratios (ACRs) based on freshwater species were used to estimate chronic toxicity endpoints for estuarine/marine animals. Toxicity to aquatic vascular and non-vascular plants was observed upon exposure to bicyclopyrone.

Bicyclopyrone is moderately to practically non-toxic to birds (and to terrestrial-phase amphibians and reptiles for which birds serve as surrogates), mammals, and to young adult honey bees (*Apis mellifera*) on an acute exposure basis.

Risk quotients (RQs) do not exceed the acute or chronic risk levels of concern (LOCs) for both freshwater and estuarine/marine fish and invertebrates or for aquatic-phase amphibians. RQ values were also below LOCs for acute and chronic risk to birds, terrestrial-phase amphibians and reptiles and for acute risk to mammals. However, RQs exceed the LOC for chronic risk to mammals (RQs = 1 - 2.1). Consistent with the MoA of bicyclopyrone as an herbicide, exposure at the maximum labeled application rates may result in risk to terrestrial and semi-aquatic dicotyledenous (dicots) plants (RQs = 1.35 - 11.48). RQ values exceed the LOC for risk to federally listed threatened or endangered (referred to as "listed") dicots for pre-emergent use (RQs = 1.8 - 9.0) as well as for both listed and non-listed aquatic vascular plants.

The following tables provide a comparison of the toxicity of bicyclopyrone relative to alternative compounds for the proposed use on corn. These tables provide a comparison of toxicity data on a chemical-by-chemical basis; the tables are sorted with the most toxic herbicide (based on endpoint values) at the top and the least toxic at the bottom. Only groups of organisms for which LOCs are exceeded for bicyclopyrone are listed.

#### Vascular Aquatic Plants EC<sub>50</sub> and NOAECs

Chemical	EC <sub>50</sub> (mg/L)	NOAEC (mg/L)
Acetochlor	0.0034	0.00012
Topramezone	0.0067	0.001
<b>Bicyclopyrone</b>	0.013	0.003
Mesotrione	0.0177	0.0075
S-metolachlor	0.048	0.0084
Atrazine	0.170	NA
2,4-D	0.2992	NA
Glyphosate	4.9	NA

NA: Not available

#### Terrestrial Plants NOAECs and EC<sub>25</sub>

Chemical	EC <sub>25</sub> /IC <sub>25</sub> (lbs ai/A)	NOAEC (lbs ai/A)
Topramezone	0.0001 <sup>2</sup>	0.000009 <sup>2</sup>
Mesotrione	0.00023 <sup>1</sup>	0.0001 <sup>1</sup>
2,4-D	0.00081 <sup>1</sup>	0.00047 <sup>1</sup>
<b>Bicyclopyrone</b>	0.001 <sup>2</sup>	0.0002 <sup>2</sup>
Acetochlor	0.0013 <sup>1</sup>	0.0006 <sup>1</sup>
Atrazine	0.003 <sup>1</sup>	0.0025 <sup>1</sup>

S-Metolachlor	0.016 <sup>2</sup>	0.0031 <sup>2</sup>
Glyphosate	0.16 <sup>2</sup>	0.074 <sup>2</sup>

<sup>1</sup> Based on seedling emergence study

<sup>2</sup> Based on the vegetative vigor study

#### Mammalian Chronic NOAECs and NOAELs

Chemical	NOAEL <sup>#</sup> (mg/kg-bw)	NOAEC <sup>#</sup> (mg/kg-diet)
Topramezone	0.2*	4.0
<b>Bicyclopyrone</b>	2.15	43*
S-Metolachlor	15*	300
2,4-D	16.6	332*
Atrazine	25*	500
Mesotrione	71.4	1428*
Acetochlor	175	3500*
Glyphosate	500	10000

<sup>#</sup> The NOAEL and NOAEC are used to estimate chronic dose-based and dietary-based risk, respectively, to listed mammals.

\* Endpoint estimated based on the assumption that 1 mg/kg-bw = 20 mg/kg-diet

## Benefits

Bicyclopyrone will initially be marketed as a four-active ingredient herbicide product (Acuron™, also formulated with 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor). Acuron™ can provide its most effective weed management with a single pre-emergent application that may not require additional post-emergent applications.

Acuron™ will be labeled for difficult to control weeds with a lower rate of atrazine, S-metolachlor, and mesotrione; resulting in decreases in the amount of atrazine that will be applied to corn as well as smaller reductions in S-metolachlor and mesotrione. The agency views these reductions as an environmental benefit. Because of the uncertainty in fully predicting future growers' adoption of Acuron™ and ultimately whether growers will use less than labeled rates over time, as is common with the alternatives, the Agency is requiring submission of annual reporting on herbicide use impacted by the introduction of Acuron™. Syngenta will develop and implement an educational and stewardship program designed to achieve the predicted reductions in herbicide use on corn. Finally, the agency and Syngenta will monitor the use of Acuron™, to ensure that significant reductions in the use of atrazine occur. Additional mitigation measures would be adopted in the event that they do not.

## Public Comments

On 8/13/14, EPA published a notice of receipt in the Federal Register of an application for registration of bicyclopyrone and announced a public comment period of 30 days. No comments were received. On 9/5/14, the EPA published a notice of filing in the Federal Register announcing the receipt of the initial filing of the bicyclopyrone petition by Syngenta under the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting the establishment of regulations for residues of bicyclopyrone on various commodities. This publication also announced a public comment period of 30 days; seven comments were received on the FFDCA notice of filing. Three of the comments were relevant to bicyclopyrone, the other four comments were relevant to other actions that were batched together with bicyclopyrone in the same Federal Register

document. The commenters noted that pesticides and bicyclopyrone pose a risk to pollinators. The agency has determined that bicyclopyrone is moderately to practically non-toxic to young adult honey bees (*Apis mellifera*) on an acute exposure basis. On 2/11/2015, the EPA published an additional notice of filing in the Federal Register for the import tolerance on sugarcane petition and no relevant comments were received.

The EPA announced the proposed decision of the unconditional registration of bicyclopyrone on 3/13/15, and held a public comment period for 30 days, closing 4/13/15. Forty four submissions were received in response to the public commenting period. Forty one submissions were received from various universities, state corn grower associations, state agri-business associations, state farm bureaus, state food processors associations, IR-4, Syngenta, and the public and were in favor of and supported the registration of bicyclopyrone; noting its benefits of controlling hard to control weeds such as cockle burr, ragweed, etc., helping with herbicide resistance management, its ability to be used as part of a one-pass spray system, and reduction of the use of atrazine, S-metolachlor, and mesotrione. Three submissions were in opposition to the agency's proposed decision to register bicyclopyrone and based their concern on the agency not consulting with the U.S. Fish and Wildlife Service and National Marine Fisheries Service under the Endangered Species Act and not having adequate label and use restrictions to protected listed species. One of the submissions in opposition to registration was a mail campaign submission containing 5,558 letters. EPA's review and responses are summarized in a separate response to public comments document and is available in the Docket (Docket ID: EPA-HQ-OPP-2014-0355).

### **Mitigation and Labeling Requirements**

Because of the potential for leaching of bicyclopyrone and its degradates, labels have language including surface and ground water advisories that warn of the potential for runoff after treatment and descriptions of conditions that may be susceptible to leaching to groundwater. In order to mitigate risks, language is on the label that is intended to keep the pesticide on the intended treatment area, thereby reducing the potential for exposure to non-target organisms. For example, the following label language is on the end-use products, SYN-A16003 Herbicide and Acuron™ Herbicide, which instructs users of applicator responsibilities and specific techniques to reduce the possibility of spray drift:

#### Spray Drift Language

#### **SPRAY DRIFT**

Do not apply when weather conditions may cause drift to nontarget areas. Drift may result in injury to adjacent crops and vegetation. To avoid spray drift, DO NOT apply when wind speed is greater than 10 mph or during periods of temperature inversions.

**AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.**

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making a decision.

#### Information on Droplet Size

The most effective way to reduce spray drift potential is to apply large droplets. Use only nozzles producing medium to ultra-course droplets. Do not use nozzles producing fine droplets.

#### Controlling Droplet Size

**Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher rate nozzles instead of increasing pressure.

**Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.

#### Non-Target Areas

Do not apply this pesticide when this product may drift to non-target areas.

#### Application Height

Applications must be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind.

#### Wind

Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed. Note: Local terrain can influence wind patterns.

Leave a 25-foot buffer downwind of the application to avoid drift to non-target areas.

#### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be

identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates, indicates good vertical air mixing.

#### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

#### Ground Water Advisory

Bicyclopyrone is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

#### Surface Water Advisory

This product has a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of bicyclopyrone from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

#### Aerial Prohibition

Do not apply by air.

#### **Data Requirements**

Data from the acute contact and oral toxicity tests with adult honey bees indicate that bicyclopyrone is practically non-toxic to bees on an acute exposure basis. However, at this time, there are no data regarding the potential acute and chronic effects of the compound on honey bee larval development and survival or the potential for chronic effects of adult bees. Therefore, EPA is requiring the submission of this information. This data requirement is explained further below.

#### **Annual Reporting**

Acuron™'s introduction will result in reduction in the use of other Syngenta products, resulting in a reduction of 3.6 million pounds of atrazine per year on acres that would of have been treated with those products. The agency is requiring Syngenta to achieve this reduction no later than the 2020 growing season.

Syngenta will provide an annual report to EPA no later than March 31 of each year following Acuron™'s first full launch year (the first full launch year currently is anticipated to be 2016 and, if so, the first report would be made in March of 2017). The report will include data on the total application of specific herbicide products to corn grown in the U.S. in the preceding year. In the annual report on the 2018 growing season (provided in March of 2019) Syngenta will demonstrate a 1.6 million pound reduction of atrazine used per year. In the annual report on the 2020 growing season (provided in March of 2021), Syngenta will demonstrate an approximately 3.6 million pound reduction of atrazine used per year. In the event that these reductions are not achieved, mitigation measures will be undertaken to ensure that atrazine uses are reduced.

### **International Harmonization**

There are no established Mexican or Codex maximum residue limits (MRLs) for residues of bicyclopyrone. Bicyclopyrone is the subject of a global data review by the EPA, PMRA, and APVMA. At this time, the residue definitions and the tolerances and MRLs are harmonized among the review partners.

### **Regulatory Decision**

In cooperation with our regulatory partners in Australia and Canada, and considering the assessed risk to human health and the environment, the agency concludes that bicyclopyrone meets the regulatory standard under FIFRA. Therefore, the EPA is granting a conditional registration of bicyclopyrone under Section 3(c)(7)(C) of FIFRA. The agency initially proposed to register bicyclopyrone as an unconditional registration 3(c)(5). However, due to the data requirements for bicyclopyrone, concerning bees the agency is registering bicyclopyrone as a conditional registration 3(c)(7)(C).

The database submitted to support the assessments of human health risk and environmental fate and ecological risk is adequate to support the use and tolerances. There are no risk estimates of concern for human health. Bicyclopyrone has low potential for acute risk to mammals, birds, freshwater and estuarine/marine fish, freshwater invertebrates, amphibians, reptiles, and adult insects. Bicyclopyrone may pose a risk to non-target terrestrial and aquatic plants, and chronic risk to non-human mammals. Label language as outlined in the "Mitigation and Labeling Requirements" section will reduce the risk to these organisms.

EPA is requiring acute and chronic studies of bicyclopyrone on honey bee larval development and survival and chronic studies of adult bees to support future, more comprehensive pollinator risk assessments for bicyclopyrone. For the proposed use on corn, any exposure to bicyclopyrone transported through the plant into pollen and/or nectar is expected to be much lower than exposure from direct treatment of the crop, which is addressed in the current ecological risk assessment. Additionally, there are no data to suggest that bicyclopyrone's mode of action as a HPPD inhibitor, which results in oxidative stress and chlorophyll loss in plant cells, would have a direct adverse effect on honey bee health. Therefore, this requirement is consistent with the harmonized Guidance for Assessing Pesticide Risks to Bees



([http://www2.epa.gov/sites/production/files/2014-06/documents/pollinator\\_risk\\_assessment\\_guidance\\_06\\_19\\_14.pdf](http://www2.epa.gov/sites/production/files/2014-06/documents/pollinator_risk_assessment_guidance_06_19_14.pdf)). However, for the use pattern currently proposed, the potential for adverse effects to adult honey bees from direct application is low and there is sufficient information to support a conditional risk-benefit decision.

In accordance with 3(c)(7)(C) of FIFRA the agency has determined that registering bicycloporyne is in the public interest. Acuron™ can control weeds with a single pre-emergent application that may not require additional post-emergent applications. Acuron™ will be labeled for difficult to control weeds with a lower rate of atrazine, S-metolachlor, and mesotrione; resulting in decreases in the amount of atrazine that will be applied to corn as well as smaller reductions in S-metolachlor and mesotrione. Acuron™'s penetration into the market will result in the reduction of other Syngenta atrazine products, resulting in a reduction of 3.6 million pounds of atrazine per year on acres that would have been treated with those products.

The agency is registering the following five products:

Bicycloporyne Technical

- 99.3% Bicycloporyne
- Only for formulation into an herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

Bicycloporyne Wet Paste Manufacturing Use Product

- 94.0% Bicycloporyne
- Only for formulation into an herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

Bicycloporyne Wet Paste II Manufacturing Use Product

- 89.6% Bicycloporyne
- Only for formulation into an herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

SYN-A16003 Herbicide

- 18.5% Bicycloporyne
- Only for use as a pre-emergent and post-emergent herbicide for the selective contact and residual control of broadleaf weeds use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

Acuron™ Herbicide

- 0.65% Bicycloporyne, 2.60% Mesotrione, 10.93% Atrazine, and 23.40% S-Metolachlor
- Only for use as a pre-emergent and post-emergent herbicide for the selective contact and residual control of broadleaf weeds use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

In summary, bicycloporyne is comparable to the other HPPD inhibitors and as stated above, this new active ingredient meets the regulatory standard under FIFRA. With the terms and

conditions of registration, the agency expects, and will ensure, that the availability of Acuron™ Herbicide results in reductions in the amount of atrazine applied to corn in the U.S. The risk assessments supporting this decision can be found in the regulatory docket (Docket ID: EPA-HQ-OPP-2014-0355).



## **Bicyclopyrone: Response to Public Comments on EPA's "Proposed Registration of the New Active Ingredient Bicyclopyrone" (Docket ID: EPA-HQ-OPP-2014-0355)**

### **Summary**

This document summarizes the U.S. Environmental Protection Agency's (the agency, EPA) responses to public comments received through the public notification of the receipt of the application for registration of the new active ingredient bicyclopyrone, and the announcement of the proposed decision to conditionally register bicyclopyrone under Section 3(c)(7)(C) of the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA).

On 8/13/14, EPA published a notice of receipt in the Federal Register of an application for registration of bicyclopyrone and announced a public comment period of 30 days. No comments were received. On 9/5/14, the EPA published a notice of filing in the Federal Register announcing the receipt of the initial filing of the bicyclopyrone petition by Syngenta under the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting the establishment of regulations for residues of bicyclopyrone on various commodities. This publication also announced a public comment period of 30 days; seven comments were received on the FFDCA notice of filing. Three of the comments were relevant to bicyclopyrone, the other four comments were relevant to other actions that were batched together with bicyclopyrone in the same Federal Register document. The commenters noted that pesticides and bicyclopyrone pose a risk to pollinators. The agency has determined that bicyclopyrone is moderately to practically non-toxic to young adult honey bees (*Apis mellifera*) on an acute exposure basis. On 2/11/2015, the EPA published an additional notice of filing in the Federal Register for the import tolerance on sugarcane petition and no relevant comments were received.

The EPA announced the proposed decision of the unconditional registration of bicyclopyrone on 3/13/15, and held a public comment period for 30 days, closing 4/13/15. Forty four submissions were received in response to the public commenting period. Forty one submissions were in favor of and supported the registration of bicyclopyrone and three submissions were in opposition to the agency's proposed decision to register bicyclopyrone. One of the submissions in opposition to registration was a mail campaign submission containing 5,558 individual letters. The agency's review and responses are summarized in this document.

### **Summary of Comments Supporting the Agency's Proposed Decision**

Forty one submissions were received from various universities, state corn grower associations, state agri-business associations, state farm bureaus, state food processors associations, IR-4, Syngenta, and the public in favor of and supported the registration of bicyclopyrone noting its benefits of controlling hard to control weeds such as cockle burr, ragweed, etc., helping with herbicide resistance management, its ability to be used as part of a one-pass spray system, and reduction of the use of atrazine, S-metolachlor, and mesotrione.

**Comment: Christopher Lish (Document ID: EPA-HQ-OPP-2014-0355-0060), Mail Campaign submitted by Jonathan Evans, Center for Biological Diversity (Document ID: EPA-HQ-OPP-2014-0355-0063, 5558 individual comments), and Center for Biological Diversity, Brett Hartl, Director (Document ID: EPA-HQ-OPP-2014-0355-57).**

A number of comments were submitted related to non-target species and policies for protecting endangered species. Specific areas cited by the public included:

*"I'm writing to you with a simple request: When considering approval for new and potentially harmful pesticides like bicyclopyrone and Acuron™, follow the law and first consult with wildlife experts. The Endangered Species Act requires federal agencies--including the Environmental Protection Agency (EPA)--to consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) before taking any action that could potentially harm wildlife protected under the Act. And yet, too often, this rule is ignored or not followed and harmful pesticides are rubber stamped for approval."*

*"The National Academy of Sciences has provided clear guidance to the EPA on the importance of a rigorous analysis of pesticide impacts to endangered species, and the requirement to consult with the FWS and the NMFS is written directly into the Endangered Species Act. I demand that this consultation be performed before bicyclopyrone, Acuron™, or any other such pesticide earns your agency's approval."*

*"EPA has an independent duty under the Endangered Species Act to consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service on the registration of any new active ingredient / end-use product that may affect protected species."*

*"The new corn herbicide bicyclopyrone, for instance, has potential to harm endangered species, both on its own or mixed with other pesticides like atrazine, a known endocrine disruptor to amphibians. Millions of pounds of atrazine are used in this country and have been found in surface water in concentrations far exceeding the threshold for harming wildlife. Studies have also shown that pesticides can have synergistic effects when mixed with other chemicals, causing greater harm to species than either chemical would alone. Fast-tracking bicyclopyrone's approval for use on millions of acres of corn would be an unthinkable irresponsible move."*

*"Label and use restrictions required to protect listed species..."*

## EPA Response:

The agency has been working collaboratively and actively with the USFWS and the NMFS (Services) to design a framework for efficiently completing the consultation process for pesticide actions in accordance with the Endangered Species Act (ESA). The agency is focusing most of its resources for assessing impacts to listed species on the agency's registration review program for currently registered or existing pesticides. EPA believes that, as a general matter, currently registered and existing pesticides may present a greater degree of risk to listed species than most new chemistries coming to market, and that it is therefore environmentally preferable in most circumstances for EPA to assess the impacts of existing pesticides sooner in the process than newer pesticides that are designed to compete with more risky alternatives. EPA does not believe the environment or the public would be best served by delaying the registration of bicyclopyrone to complete consultation.

EPA received numerous comments from various universities, state corn grower associations, state agri-business associations, state farm bureaus, state food processors associations, IR-4, Syngenta, and the public requesting an expedited registration of bicyclopyrone noting its benefits of controlling hard to control weeds such as cockle burr, ragweed, etc., helping with herbicide resistance management, its ability to be used as part of a one-pass spray system, and reduction of the use of atrazine, S-metolachlor, and mesotrione. Acuron™ can provide its most effective weed management with a single pre-emergent application that may not require additional post-emergent applications. Acuron™ can provide higher efficacy on difficult to control weeds with a lower rate of atrazine, S-metolachlor, and mesotrione; resulting in decreases in the amount of atrazine that will be applied to corn as well as smaller reductions in S-metolachlor and mesotrione. Acuron™'s introduction will result in reduction in the use of other Syngenta products, resulting in a reduction of 3.6 million pounds of atrazine per year on acres that would of have been treated with those products. The agency is requiring Syngenta to achieve this reduction no later than the 2020 growing season. In the event that these reductions are not achieved, EPA has a mechanism in place to ensure future atrazine reductions.

Focusing EPA's, FWS', and NMFS' limited resources on completing a consultation on the effects of bicyclopyrone would by necessity come at the expense of putting more resources into evaluating – and consequently regulating, where appropriate – what EPA believes to be more toxic compounds.

EPA currently employs a 3-pronged strategy in managing pesticide registration actions. This is intended to protect listed species and their designated critical habitat by focusing resources on areas where we can achieve the most important protections. First, EPA will undertake the majority of its ESA consultation work through registration review. This allows EPA to focus on chemicals with higher risk, i.e., the "worst first", resulting in the greatest potential benefits for listed species. EPA has also negotiated with our partner agencies to phase in the interim scientific approaches over time. In November 2013, EPA, USFWS, NMFS, and US Department of Agriculture (USDA) released a white paper containing a summary of their joint interim approaches for assessing risks to listed species from pesticides. These interim approaches were developed jointly by the agencies in response to the National Academy of Sciences (NAS) recommendations, and reflect a common approach to risk assessment shared by the agencies as a

way of addressing scientific differences between the EPA and the Services. Details of the joint interim approaches are contained in the November 1, 2013 white paper, *Interim Approaches for National-Level Pesticide Endangered Species Act Assessments Based on the Recommendations of the National Academy of Sciences April 2013 Report*. EPA, FWS, and NMFS are continuing to develop and work toward implementation of the interim approaches to assess the potential risks of pesticides to listed species and their designated critical habitat, and will apply these approaches to initial consultations and, based upon the experience gained with these approaches as well as any new science that may develop, modify procedures as appropriate.

Secondly, EPA intends to complete an endangered species assessment for new herbicide tolerant crop uses. The agency believes this is appropriate since these registrations would be expected to greatly increase the number of acres treated for a currently registered pesticide. This current action does not involve transgenic seeds.

Thirdly, EPA will provide information that compares the potential hazards of the new active ingredients to already registered pesticides with similar use patterns. This will allow stakeholders to compare the relative toxicity of the proposed registration to available alternatives. The agency will proceed with registration in those instances where there would be a favorable shift to the new active ingredient and could choose to conduct an ESA assessment for those instances where the new active ingredient poses greater risks to non-target organisms prior to making a registration decision. EPA concludes the overall environmental benefit for this action is consistent with these policy priorities.

For the reasons explained above, EPA has not determined whether consultation with the Services under section 7 of the ESA for bicyclopyrone would be necessary. The agency believes that the reduction in the amount of atrazine and the other pesticides would provide an environmental benefit and support the registration of this new active ingredient. However, EPA is currently working to prioritize its consultation activities with the Services and will evaluate the appropriate timing and scope of any necessary consultation on bicyclopyrone in connection with those efforts. In addition, to the extent EPA receives new information indicating that bicyclopyrone may pose a greater risk to listed species than indicated by the existing scientific database for this pesticide, EPA will re-evaluate the terms of registration and determine whether additional use restrictions to protect listed species are necessary.

Concerning synergistic effects, the agency does not routinely include a separate evaluation of mixtures of active ingredients. However, there are some data available to the agency regarding synergistic effects and EPA believes it adequately addressed the issue of synergism between bicyclopyrone and atrazine. Although the submitted data and EPA risk assessments tend to focus on individual chemicals, for Acuron™, a formulation where there are multiple active ingredients, each is subject to an individual risk assessment for a regulatory decision regarding the active ingredient on a particular use site. In the case of Acuron™, this would be for each active ingredients contained in the formulation (i.e., bicyclopyrone, mesotrione, atrazine, and S-metolachlor). If effects data are available for a formulated product for non-target organisms containing more than one active ingredient, they may be used qualitatively or quantitatively in accordance with the agency's Overview Document and the Services' Evaluation Memorandum (USEPA 2004; USFWS/NMFS/NOAA 2004).

Additionally, for atrazine and bicyclopyrone specifically, the agency compared the Acuron™ (a mixture of bicyclopyrone, mesotrione, atrazine and S-metolachlor) formulation-specific acute toxicity data with atrazine only and bicyclopyrone only active ingredient specific acute toxicity data. All three formulations demonstrated low acute toxicity for mammals. The acute toxicity effects for all three formulations are similar and do not indicate a synergistic effect for atrazine and bicyclopyrone for mammals.

If evidence from incidents or field observations suggest that current label language is not providing adequate protection to non-target organisms, county specific use limitations may be required. To the extent that county-specific label mitigation is needed, EPA would use the web application "Bulletins Live Two" (BLT)" to set fourth geographically-specific pesticide use limitations for the protection of threatened and endangered species and their designated critical habitat. BLT can be found at <http://www.epa.gov/oppfead1/endanger/bulletins.htm>.

**Comment: Syngenta Crop Protection, LLC, (Document ID: EPA-HQ-OPP-2014-0355-66)**

*"In the document "Proposed Registration of the New Active Ingredient Bicyclopyrone" (EPA-HQ-OPP-2014-0355-0024), on page 6 (2nd Paragraph and associated tables), the Lemna gibba EC50 (mg/L) listed for bicyclopyrone contained a typographical error of 0.003 mg/L instead of the correct EC50 value of 0.013 mg/L. See page 32 in EPA-HQ-OPP-2014-0355-0015 for the EC50 and NOEC for L. gibba (0.013 mg/L and 0.003 mg/L, respectively). The correct EC50 value was used in the risk assessment conducted by EFED, and the typographical correction suggested here is for the tables in the Proposed Registration document only. The updated comparison tables are provided below. Additionally, we have added isoxaflutole to the tables below for additional comparison since it is also a preemergence HPPD inhibitor registered in corn.*

*EPA included comparative tables for three taxa (terrestrial plants, mammals, and vascular aquatic plants), based on the screening level assessment, stating "Only groups of organisms for which LOCs are exceeded for bicyclopyrone are listed." (EPA-HQ-OPP-2014-0355-0024, page 6). Additionally, bicyclopyrone has a favorable toxicity profile for all other taxa for which EPA's screening level assessment showed no LOC exceedances. For future analysis of bicyclopyrone, the tables in Attachment 1 provide a comparison of the toxicity of bicyclopyrone relative to alternative herbicides for additional environmental endpoints. We suggest that future comparative analyses should also utilize overall risk comparisons (exposure as well as toxicity). These additional comparisons show that this new herbicide provides a highly favorable environmental profile.*

*EPA conducted screening level assessments in the document "Environmental Fate and Ecological Risk Assessment for Use of the New Herbicide Bicyclopyrone (NOA449280)" (EPA-HQ-OPP-2014-0355-0015). Additional data and methodologies are available for use in future assessments to further refine the highly conservative assumptions implicit in the screening level assessments. Such refinements include use of foliar degradation data and residue decline, refinement of runoff screening estimates using established models such as PRZM edge of field flux data with chemical specific environmental fate data, terrestrial and aquatic plant recovery*

*data, and other best available data and methodologies. In addition, label mitigations added by EPA to minimize drift and runoff (25 foot downwind buffer, droplet size requirements, wind speed, etc.) could be used to refine the screening level assessment. Use of these refinements results in risk and exposure conclusions that are below levels of concern for listed and non-listed species."*

EPA Response:

The agency acknowledges the typographical error and has revised the table with the correct EC50 value of 0.013 mg/L in the decision document. Isoxaflutole was not included in the tables because it was not identified among the top alternatives to bicyclopyrone in corn. The agency will use all available information and methods as appropriate, in evaluating any future bicyclopyrone actions.



Recommendation of Division Directors Negotiated Due Dates			
Decision #: 470872, 470870,		Registration #: 100-RUAA	
470871, 470873,		100-RUAE	
470867, 470875		100-RUAG	
<input type="checkbox"/> See page 2 for additional registration entries			
Chemical Name: bicyclopyrone			
Fee Category: R010		PRIA Decision Time Frame: 24	
Submitted by: Erik		Kraft	Branch: OCSPP/OPP/RD      Date: 04/21/2015
Company: Syngenta			
Original PRIA Due Date: 10/30/2014		Proposed New PRIA Due Date: 04/24/2015	
Previous Negotiated Due Dates: 02/27/2015      04/21/2015			
Is the "Fix" in-house? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a		If not, date "Fix" expected:	
Negotiated Due Date Reason:			
Additional Data Required	<input type="checkbox"/> Product Chemistry	<input type="checkbox"/> Toxicology	<input type="checkbox"/> Acute Tox
	<input type="checkbox"/> Efficacy	<input type="checkbox"/> Ecological	<input type="checkbox"/> Residue
Data Deficiencies	<input type="checkbox"/> Product Chemistry	<input type="checkbox"/> Acute Tox	<input type="checkbox"/> Efficacy
	<input type="checkbox"/> Environmental	<input type="checkbox"/> Ecological	<input type="checkbox"/> Labeling
Late Risk Assessment	<input type="checkbox"/> Human Health	<input type="checkbox"/> Ecological	
Interim Consideration	<input type="checkbox"/> Agency Initiated	<input type="checkbox"/> Registrant Initiated	
<input type="checkbox"/> CSF	<input type="checkbox"/> Public Process	<input type="checkbox"/> Risk Issues Environmental	<input type="checkbox"/> Risk Issues Human Health
<input type="checkbox"/> Impurities Review	<input type="checkbox"/> Label	<input type="checkbox"/> Administrative-FR Notice	<input checked="" type="checkbox"/> Other – Comment Field
Summary of Deficiency Type(s): <input type="checkbox"/> Not Submitted (N) <input type="checkbox"/> Deficiencies (D)			
Product Chemistry: <input type="checkbox"/> Acute Tox: <input type="checkbox"/> Efficacy: <input type="checkbox"/> Labeling: <input type="checkbox"/> Ecological Data: <input type="checkbox"/> Other (describe): <input checked="" type="checkbox"/>			
Need time to respond to comments and to incorporate annual reporting agreement into decision document			
Describe Interactions with Company (describe when contacted and company's response including response to previous negotiated due dates): For the past month EPA and Syngenta have been working on the annual reporting agreement for the reduction of atrazine with the registration of the new ai, bicyclopyrone. Syngenta agreed to the pria extension to 4/24/15 to allow the agency to have time to respond to comments and to incorporate the reporting requirement into the decision document.			
"75 Day" Letter sent? <input type="checkbox"/> Yes, Date sent <input checked="" type="checkbox"/> No and reason for none? <i>Add comments on page 2</i>			
Rationale for Proposed Due Date: see above			
Registrant notified that this is the last negotiation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not Applicable			
Approve: <input checked="" type="checkbox"/>		Disapprove: <input type="checkbox"/>	
If disapproved, action to be taken:			
OD or DOD Signature:      CN=Marty Monell/OU=DC/O=USEPA/C=US			Date:      04/21/2015

<b>Decision #:</b> 470874	<b>Registration #:</b> 100-RUAL	<b>Petition #:</b>
	100-RUAT	

**Issue(s) (describe in detail):**

**Comment(s):**  
no 75 day letter sent because it is not NA.

# Audit Trail for

## Recommendation of Division Directors Negotiated Due Dates

**PDF Name:** PRIAv5.pdf

**Form Number:** PRIA

**Document Identifier:** PRIA-15111125249-EK

SUBMITTED on 04/21/2015 at 01:04:29 PM by CN=Erik Kraft/OU=DC/O=USEPA/C=US

APPROVED on 04/21/2015 at 02:08:37 PM by CN=Rachel Holloman/OU=DC/O=USEPA/C=US

APPROVED on 04/21/2015 at 03:49:22 PM by CN=Dan Rosenblatt/OU=DC/O=USEPA/C=US

APPROVED AND COMPLETED on 04/21/2015 at 04:02:19 PM by CN=Marty Monell/OU=DC/O=USEPA/C=US

**Kraft, Erik**

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**From:** Murphy Tamara USGR <tamara.murphy@syngenta.com>  
**Sent:** Tuesday, April 21, 2015 12:38 PM  
**To:** Kraft, Erik  
**Cc:** Holloman, Rachel  
**Subject:** RE: pria extension for bicyclo.

Erik,

Yes, Syngenta agrees with the new PRIA date of April 24, 2015. Thanks for your help.

*Regards,  
Tammy*

Tamara Murphy/Senior Regulatory Product Manager, Herbicides

**AI Responsibilities:** Cereal Herbicides, BIR, Fluazifop, Smetol, Ametryn

Syngenta Crop Protection, LLC  
Office: (336)632-2409 / Mobile: (336)906-4324 / Fax: (336)632-5688  
tamara.murphy@syngenta.com

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**From:** Kraft, Erik [mailto:Kraft.Erik@epa.gov]  
**Sent:** Tuesday, April 21, 2015 10:53 AM  
**To:** Murphy Tamara USGR  
**Cc:** Holloman, Rachel  
**Subject:** pria extension for bicyclo.

Tammy,

Rachel just called me to follow up with you about the pria extension. She had talked to John Abbott yesterday and he had agreed to a pria extension to this Friday. Can you please send me an email saying that you acknowledge the pria extension to this Friday 4/24/15, so that we can start the paper work.

Thanks  
Erik

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*This message may contain confidential information. If you are not the designated recipient, please notify the sender immediately, and delete the original and any copies. Any use of the message by you is prohibited.*

**Kraft, Erik**

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**From:** Garvie, Heather  
**Sent:** Friday, April 17, 2015 8:22 AM  
**To:** Jordan, William; Herndon, George  
**Cc:** Hollis, Angela; Kraft, Erik  
**Subject:** RE: Bill Jordan will be Acting Office Director of OPP on Friday, April 17, 2015

Thank you. I will ensure it is added to the jacket. Thank you for the quick turn around this morning. I know many people in RD appreciate it. I am currently on the hunt for the HED and OGC concurrence information and will send you asap.

**From:** Jordan, William  
**Sent:** Friday, April 17, 2015 8:18 AM  
**To:** Herndon, George; Garvie, Heather  
**Subject:** FW: Bill Jordan will be Acting Office Director of OPP on Friday, April 17, 2015

Here is the email showing that I am authorized to sign the tolerance for bicyclo.

Please put it in the jacket for the record.

Thanks,

Bill

William Jordan  
Deputy Director, Programs  
Office of Pesticide Programs  
U. S. Environmental Protection Agency

Phone: 703-305-1049  
Fax: 703-308-4776

<b>Mailing Address:</b>	<b>Courier Address:</b>
USEPA Headquarters	Potomac Yards South
Clinton Building	2777 Crystal Drive
1200 Pennsylvania Ave., NW	Room 12-235
Mail Code (7501P)	Arlington, VA
Washington, DC 20460	

**From:** Dinkins, Darlene  
**Sent:** Thursday, April 16, 2015 5:44 PM  
**To:** Jones, Jim; Wise, Louise; Sterling, Sherry; Collantes, Margarita; OPP Division Directors & Associate Directors  
**Cc:** Sisco, Debby; Mack, Doris; Leftridge, Deborah; Caulkins, Peter; Taylor, Dozina; Rice, Denise  
**Subject:** Bill Jordan will be Acting Office Director of OPP on Friday, April 17, 2015

Bill Jordan will be Acting Office Director of OPP on Friday, April 17, 2015.

For Jack Housenger



## **Proposed Registration of the New Active Ingredient Bicyclopyrone**

**An Herbicide for Use on Corn and Establishment of  
Tolerances for Corn (field, pop, and sweet) and Imported  
Sugarcane**

Approved by: \_\_\_\_\_

Jack E. Housenger, Director  
Office of Pesticide Programs

Date: \_\_\_\_\_

3/13/15

## Summary

This document announces that the U.S. Environmental Protection Agency (EPA) is proposing to grant an unconditional registration under section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for the new active ingredient, bicyclopyrone, as an herbicide. Bicyclopyrone has one technical product, two manufacturing-use products (Bicyclopyrone Wet Paste Manufacturing Use Product and Bicyclopyrone Wet Paste II Manufacturing Use Product), and two end-use products (SYN-A16003 Herbicide and Acuron™ Herbicide). The product Acuron™ will contain 0.65% bicyclopyrone, 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor. The product SYN-A16003 will contain 18.5% bicyclopyrone. The labels specify that bicyclopyrone is generally to be applied once annually as a pre-emergent application to corn; however, a split application for pre-emergent and early post-emergent is allowed, provided the maximum single and annual application rates are not exceeded. Identical rates and use patterns apply to both end use products (Only Acuron™ will marketed).

## Background

On September 23, 2013, EPA received an application to register products containing the new active ingredient, bicyclopyrone (CAS Number 352010-68-5), an herbicide for use on corn (field, pop, and sweet) from Syngenta Crop Protection. Syngenta also submitted applications for simultaneous review to the Pest Management Regulatory Agency (PMRA) of Canada and the Australian Pesticides and Veterinary Medicines Authority (APVMA). The EPA, PMRA, and APVMA combined scientific and regulatory expertise to conduct a joint review. Each country's team of scientists peer-reviewed the primary reviews of their counterparts. While continuing to consult and coordinate, human health and ecological risk assessments were developed by each country individually.

The proposed use for this new chemical is as an herbicide for use on corn with the establishment of tolerances on corn and imported sugarcane. The proposed use on corn is for the selective contact and residual control of weeds in field corn, seed corn, silage corn, yellow popcorn, and sweet corn. The maximum single and maximum annual application rates are 0.045 lb ai/acre. One application (pre-emergent is proposed, but the labels do allow for split applications (one pre-emergent and one early post-emergent) as long as the maximum single and annual application rates are not exceeded. The minimum retreatment interval (RTI) is 14 days; the pre-harvest interval (PHI), is 45 days.

The proposed product Acuron™ contains 0.65% bicyclopyrone, 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor giving the product three different modes of actions (MoA). The product SYN-A16003 contains 16.5% bicyclopyrone and only one MoA. The proposed label for Acuron™ contains information on each of the three different modes of actions. The proposed label for SYN-A16003 contains information on the MoA for bicyclopyrone. Bicyclopyrone and mesotrione are members of the hydroxyphenylpyruvate dioxygenase (HPPD) inhibitor class of herbicides (Herbicide Resistance Action Committee (HRAC) Group 27) and belong to the triketone subclass of chemistry. Bicyclopyrone and mesotrione inhibit the enzyme HPPD and block biosynthesis in plants. Atrazine is a member of the triazine family of herbicides (HRAC Group 5). Atrazine works by inhibiting photosynthesis. S-Metolachlor is a member of the chloroacetamide family of herbicides (HRAC Group 15). S-Metolachlor is a seedling shoot growth inhibitor.

The maximum single and maximum total annual rates for Acuron™ are 3 quarts per acre. When applied at this rate, Acuron™ will apply 0.045 lb ai/acre of bicyclopyrone, 0.18 lb ai/acre of mesotrione, 0.75 lb ai/acre of atrazine, and 1.605 lb ai/acre of S-metolachlor per single application and total per year. The maximum total annual rates on corn, allowed by the agency, for mesotrione is 0.24 lb ai/acre, atrazine is 2.5 lb ai/acre, and S-metolachlor is 3.71 lb ai/acre. The maximum single and maximum total annual rates for Acuron™ are below the maximum use rates allowed by the agency for mesotrione, atrazine, and S-metolachlor.

## Evaluation

In evaluating a pesticide registration application, the EPA assesses a wide variety of exposure information (*i.e.*, where and how the pesticide is used) and environmental fate (*i.e.*, how the chemical will move in the environment) and toxicity studies (*i.e.*, effects on humans and other non-target organisms) to determine the likelihood of adverse effects (*i.e.*, risk) from exposures associated with the proposed use of the product. Risk assessments are developed to evaluate the environmental fate of the compound as well as how it might affect a wide range of non-target organisms including humans, terrestrial and aquatic wildlife and plants. On the basis of these assessments, EPA evaluates and approves language for each pesticide label to ensure the directions for use and safety measures are appropriate to mitigate any potential risk. The pesticide's label helps to communicate essential limitations and mitigations that are necessary for public safety. It is a violation of federal law to use a pesticide in a way that conflicts with the label.

## Assessment of Risk to Human Health

EPA requires a wide range of studies in order to assess a pesticide. Bicyclopyrone falls in the lowest acute toxicity category of IV via the eye, oral, dermal, and inhalation routes. The labeling precautionary signal word is "CAUTION" for all products. The table below summarizes the toxicological endpoints used in the human health risk assessment:



Summary of Toxicological Doses and Endpoints for Bicyclopyrone for Use in Human Health Risk Assessments.				
Exposure/Scenario	POD	Uncertainty/FQP A Safety Factors	RfD, PAD, LOC for Risk Assessment	Study and Toxicological Effects
Acute Dietary (General Population, including Infants and Children)	No endpoint attributable to a single dose and appropriate for the U.S. general population was seen in the bicyclopyrone toxicological database; therefore, an acute dietary point of departure for the general U.S. population was not established.			
Acute Dietary (Females 13-49 years of age)	LOAEL = 10 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X FQPA SF /UF <sub>L</sub> = 10X	Acute RfD = 0.01 mg/kg/day aPAD = 0.01 mg/kg/day	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).
Chronic Dietary (All Populations)	LOAEL = 0.28 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X FQPA SF/UF <sub>L</sub> = 10X	Chronic RfD = 0.00028 mg/kg/day cPAD = 0.00028 mg/kg/day	<b>Carcinogenicity (rat)</b> LOAEL = 0.28/0.35 mg/kg/day (M/F) based on a dose dependent increase in the incidence of opaque eyes and corneal damage in both sexes compared to controls, an increased incidence of thyroid follicular hyperplasia in males, and an increased incidence of chronic progressive nephropathy in the kidneys of males.
Dermal Short- (1-30 days) and Intermediate-Term (1-6 months)	LOAEL = 10 mg/kg/day DAF = 20.44%	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X UF <sub>L</sub> = 10X	Occupational LOC for MOE = 1000	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).
Inhalation Short- (1-30 days) and Intermediate-Term (1-6 months)	LOAEL = 10 mg/kg/day	UF <sub>A</sub> = 10X UF <sub>H</sub> = 10X UF <sub>L</sub> = 10X	Occupational LOC for MOE = 1000	<b>Prenatal Developmental Study (New Zealand White rabbits)</b> Developmental LOAEL = 10 mg/kg bw based on skeletal variations (the appearance of the 27 <sup>th</sup> presacral vertebrae).
Cancer (oral, dermal, inhalation)	Classification: "Suggestive evidence of cancer" based on the presence of rare ocular tumors in male rats. Quantification of bicyclopyrone's carcinogenic potential is not required. The Cancer Assessment Review Committee (CARC) recommended using a non-linear approach ( <i>i.e.</i> , RfD) that will adequately account for all chronic toxicity, including carcinogenicity that could result from exposure to bicyclopyrone.			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF<sub>A</sub> = extrapolation from animal to human (interspecies). UF<sub>H</sub> = potential variation in sensitivity among members of the human population (intraspecies). UF<sub>L</sub> = use of a LOAEL to extrapolate a NOAEL. FQPA SF = FQPA Safety Factor. PAD = population-adjusted dose (a = acute, c = chronic). DAF = dermal absorption factor. RfD = reference dose. MOE = Margin of Exposure. LOC = Level of Concern.

The acute and chronic analyses assumed tolerance-level residues (acute analysis) or average field trial residues (chronic analysis), 100% crop-treated (CT), and modeled drinking water estimates. Since adequate processing studies have been submitted, which indicate that residues do not concentrate in corn or sugarcane commodities, the Dietary Exposure Evaluation Model (DEEM ver. 7.81) default processing factors for these commodities were reduced to 1. The resulting acute [2.9% acute population-adjusted dose (aPAD) for females 13 - 49 years old] and chronic [ $\leq$  91% chronic population-adjusted dose (cPAD); children (1 - 2 years old) were the most highly exposed subgroup] dietary risk estimates are not of concern. The occupational handler exposure and risk estimates indicate that the short- and intermediate-term dermal and inhalation combined margins of exposure (MOEs) are not of concern (*i.e.*,  $\text{MOE} \geq 1000$ ) with baseline attire (*i.e.*, single layer of clothing, no gloves, and no respirator; all  $\text{MOEs} \geq 1,700$ ). The occupational post-application dermal exposure and risk estimates are greater than the level of concern of 1000 on the day of application, ranging from 1,800 to 49,000 depending on crop and activity.

### Assessment of Ecological Risk

Bicyclopyrone is a relatively soluble, nonvolatile compound that is stable to hydrolysis and is expected to be very highly mobile in soil. Bicyclopyrone photodegrades on surface soil, with half-lives ranging from 4- to 13-days. It is slightly persistent in aerobic soil, metabolizing to multiple organic transformation products and carbon dioxide. It is stable in anaerobic soil and anaerobic aquatic systems, and degrades very slowly in aerobic aquatic systems, with half-lives of 393 - 681 days. Bicyclopyrone photodegrades slowly in water, with half-lives of 11 to 75 days. The new active ingredient is not expected to bioaccumulate in aquatic and terrestrial organisms. Bicyclopyrone may move to groundwater via leaching, and may move to surface water bodies via spray drift and runoff of dissolved or sorbed residues.

Bicyclopyrone is classified as slightly to practically non-toxic to freshwater and estuarine/marine fish (and to aquatic-phase amphibians for which freshwater fish serve as surrogates) as well as to freshwater invertebrates, but is moderately toxic to estuarine/marine invertebrates on an acute exposure basis. Chronic effects were not observed in either the freshwater fish early life stage toxicity test or the freshwater invertebrate full life cycle test after exposure to bicyclopyrone. No chronic estuarine/marine fish or invertebrate studies were submitted and therefore acute-to-chronic ratios (ACRs) based on freshwater species were used to estimate chronic toxicity endpoints for estuarine/marine animals. Toxicity to aquatic vascular and non-vascular plants was observed upon exposure to bicyclopyrone.

Bicyclopyrone is moderately to practically non-toxic to birds (and to terrestrial-phase amphibians and reptiles for which birds serve as surrogates), mammals, and to young adult honey bees (*Apis mellifera*) on an acute exposure basis.

Risk quotients (RQs) do not exceed the acute or chronic risk levels of concern (LOCs) for both freshwater and estuarine/marine fish and invertebrates or for aquatic-phase amphibians. RQ values were also below LOCs for acute and chronic risk to birds, terrestrial-phase amphibians and reptiles and for acute risk to mammals. However, RQs exceed the LOC for chronic risk to mammals ( $\text{RQs} = 1 - 2.1$ ). Consistent with the MoA of bicyclopyrone as a herbicide, exposure at the maximum labeled application rates may result in risk to terrestrial and semi-aquatic

dicotyledenous (dicots) plants (RQs = 1.35 - 11.48). RQ values exceed the LOC for risk to federally listed threatened or endangered (referred to as "listed") dicots for pre-emergent use (RQs = 1.8 - 9.0) as well as for both listed and non-listed aquatic vascular plants.

The following tables provide a comparison of the toxicity of bicyclopyrone relative to alternative compounds for the proposed use on corn. These tables provide a comparison of toxicity data on a chemical-by-chemical basis; the tables are sorted with the most toxic herbicide (based on endpoint values) at the top and the least toxic at the bottom. Only groups of organisms for which LOCs are exceeded for bicyclopyrone are listed.

**Vascular Aquatic Plants EC<sub>50</sub> and NOAECs**

Chemical	EC <sub>50</sub> (mg/L)	NOAEC (mg/L)
<b>Bicyclopyrone</b>	0.003	0.003
Acetochlor	0.0034	0.00012
Topramezone	0.0067	0.001
Mesotrione	0.0177	0.0075
S-metolachlor	0.048	0.0084
Atrazine	0.170	NA
2,4-D	0.2992	NA
Glyphosate	4.9	NA

NA: Not available

**Terrestrial Plants NOAECs and EC<sub>25</sub>**

Chemical	EC <sub>25</sub> /IC <sub>25</sub> (lbs ai/A)	NOAEC (lbs ai/A)
Topramezone	0.0001 <sup>2</sup>	0.000009 <sup>2</sup>
Mesotrione	0.00023 <sup>1</sup>	0.0001 <sup>1</sup>
2,4-D	0.00081 <sup>1</sup>	0.00047 <sup>1</sup>
<b>Bicyclopyrone</b>	0.001 <sup>2</sup>	0.0002 <sup>2</sup>
Acetochlor	0.0013 <sup>1</sup>	0.0006 <sup>1</sup>
Atrazine	0.003 <sup>1</sup>	0.0025 <sup>1</sup>
S-metolachlor	0.016 <sup>2</sup>	0.0031 <sup>2</sup>
Glyphosate	0.16 <sup>2</sup>	0.074 <sup>2</sup>

<sup>1</sup> Based on seedling emergence study

<sup>2</sup> Based on the vegetative vigor study

**Mammalian Chronic NOAECs and NOAELs**

Chemical	NOAEL <sup>#</sup> (mg/kg-bw)	NOAEC <sup>#</sup> (mg/kg-diet)
Topramezone	0.2*	4.0
<b>Bicyclopyrone</b>	2.15	43*
S-metolachlor	15*	300
2,4-D	16.6	332*
Atrazine	25*	500
Mesotrione	71.4	1428*
Acetochlor	175	3500*
Glyphosate	500	10000

<sup>#</sup> The NOAEL and NOAEC are used to estimate chronic dose-based and dietary-based risk, respectively, to listed mammals.

\* Endpoint estimated based on the assumption that 1 mg/kg-bw = 20 mg/kg-diet

## **Benefits**

Bicyclopyrone will initially be marketed as a four-active ingredient herbicide product (Acuron™, also formulated with 2.60% mesotrione, 10.93% atrazine, and 23.40% S-metolachlor). According to Syngenta, Acuron™ may provide its most effective weed management with a single pre-emergent application that may not require additional post-emergent applications.

The registrant asserts that the availability of Acuron™ provides higher efficacy on difficult to control weeds with a lower rate of atrazine as well as mesotrione and s-metolachlor, resulting in significant decreases in the amount of atrazine as well as decreases for the other pesticides with the availability of Acuron™. The agency views these reductions as an environmental benefit. Because of the uncertainty in fully predicting future growers' adoption of Acuron™ and ultimately whether growers will use less than labeled rates over time, as is common with the alternatives, Syngenta indicated they will submit annual reporting on herbicide use impacted by the introduction of Acuron™. Syngenta will also develop and implement an educational and stewardship program. Finally, the agency and Syngenta will monitor the use of Acuron™, to ensure that significant reductions in the use of atrazine, as well as mesotrione and s-metolachlor, occur over the next four years. Additional mitigation measures would be adopted in the event that they do not.

## **Public Comments**

On 8/13/14, EPA published a notice of receipt in the Federal Register of an application for registration of bicyclopyrone and announced a public comment period of 30 days. No comments were received. On 9/5/14, the EPA published a notice of filing in the Federal Register announcing the receipt of the initial filing of the bicyclopyrone petition by Syngenta under the Federal Food, Drug, and Cosmetic Act (FFDCA) requesting the establishment of regulations for residues of bicyclopyrone on various commodities. This publication also announced a public comment period of 30 days; seven comments were received on the FFDCA Notice of Filing. Three of the comments were relevant to bicyclopyrone, the other four comments were relevant to other actions that were batched together with bicyclopyrone in the same federal register document. The commenters noted that pesticides and bicyclopyrone pose a risk to pollinators. The agency has determined that bicyclopyrone is moderately to practically non-toxic to young adult honey bees (*Apis mellifera*) on an acute exposure basis. On 2/11/2015, the EPA published a corrected notice of filing in the Federal Register for the import tolerance on sugarcane petition. One comment was received, and this comment was associated with an action that was batched together with bicyclopyrone in the same federal register document and was not relevant to bicyclopyrone.

## **Regulatory Rationale**

The database submitted to support the assessments of human health risk and environmental fate and ecological risk is adequate to support the proposed use and tolerances. There are no risk estimates of concern for human health. Bicyclopyrone has low potential for acute risk to mammals, birds, freshwater and estuarine/marine fish, freshwater invertebrates, amphibians,

reptiles, and adult insects. Bicyclopyrone may pose a risk to non-target terrestrial and aquatic plants, and chronic risk to non-human mammals. Label language as outlined in the “Mitigation and Labeling Requirements” section below will reduce the risk to these organisms.

## **Mitigation and Labeling Requirements**

Because of the potential for leaching of bicyclopyrone and degradates, labels have language including surface and ground water advisories that stress the potential for runoff after treatment and descriptions of conditions that may promote leaching to groundwater. In order to mitigate risks, language is on the label that is intended to keep the pesticide on the intended treatment area, thereby reducing the potential for exposure to non-target organisms. For example, the following label language is on the end-use products EPA Reg. 100-RUAL (SYN-A16003 Herbicide) and 100-RUAA (Acuron™ Herbicide) that instructs users of applicator responsibilities and specific techniques to reduce the possibility of spray drift:

### Spray Drift Language

#### **SPRAY DRIFT**

Do not apply when weather conditions may cause drift to nontarget areas. Drift may result in injury to adjacent crops and vegetation. To avoid spray drift, DO NOT apply when wind speed is greater than 10 mph or during periods of temperature inversions.

**AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.**

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making a decision.

#### **Information on Droplet Size**

The most effective way to reduce spray drift potential is to apply large droplets. Use only nozzles producing medium to ultra-course droplets. Do not use nozzles producing fine droplets.

#### **Controlling Droplet Size**

**Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** – Do not exceed the nozzle manufacturer’s recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher rate nozzles instead of increasing pressure.

**Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.

#### **Non-Target Areas**

Do not apply this pesticide when this product may drift to non-target areas.

### Application Height

Applications must be made at the lowest height above the target area that still provides uniform coverage of the target. Making applications at the lowest yet effective height reduces exposure of droplets to wind.

### Wind

Drift potential is lowest when wind speeds are 10 mph or less. However, many factors, including droplet size, pressure, and equipment type determine drift potential at any given wind speed. Note: Local terrain can influence wind patterns.

Leave a 25-foot buffer downwind of the application to avoid drift to non-target areas.

### Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates, indicates good vertical air mixing.

### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

### Ground Water Advisory

Bicyclopyrone is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

### Surface Water Advisory

This product has a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of bicyclopyrone from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

#### Aerial Prohibition

Do not apply by air.

#### **International Harmonization**

There are no established Mexican or Codex maximum residue limits (MRLs) for residues of bicyclopyrone. Bicyclopyrone is the subject of a global data review by the EPA, PMRA, and APVMA. At this time, the residue definitions and the recommended tolerances and MRLs are harmonized among the review partners.

#### **Proposed Regulatory Decision**

In cooperation with our regulatory partners in Australia and Canada, and considering the assessed risk to human health and the environment, the agency concludes that bicyclopyrone meets the regulatory standard under FIFRA. There are no outstanding data requirements for bicyclopyrone. Therefore, the EPA is proposing to grant the unconditional registration of bicyclopyrone under Section 3(c)(5) of FIFRA.

The agency is proposing to register the following five products:

##### Bicyclopyrone Technical

- 99.3% Bicyclopyrone
- Only for formulation into a herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

##### Bicyclopyrone Wet Paste Manufacturing Use Product

- 94.0% Bicyclopyrone
- Only for formulation into a herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

##### Bicyclopyrone Wet Paste II Manufacturing Use Product

- 89.6% Bicyclopyrone
- Only for formulation into a herbicide for use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

##### SYN-A16003 Herbicide

- 18.5% Bicyclopyrone

- Only for use as a pre-emergent and post-emergent herbicide for the selective contact and residual control of broadleaf weeds use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

Acuron™ Herbicide

- 0.65% Bicyclopyrone, 2.60% Mesotrione, 10.93% Atrazine, and 23.40% S-Metolachlor
- Only for use as a pre-emergent and post-emergent herbicide for the selective contact and residual control of broadleaf weeds use in field corn, seed corn, silage corn, sweet corn, and yellow corn.

In summary, Bicyclopyrone is comparable to the other HPPD inhibitors and as stated above, this new active ingredient meets the regulatory standard under FIFRA. The Agency expects, and will ensure, that the availability of this product results in significant reductions in the amount of atrazine and decreases in the amount of mesotrione and s-metolachlor. The risk assessments supporting this decision can be found in the regulatory docket (Docket ID: EPA-HQ-OPP-2014-0355).





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

**FEC**

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

OFFICE OF PESTICIDE PROGRAMS  
REGISTRATION DIVISION (7505P)

DP BARCODE No.: D425308 FILE SYMBOL NO.: 100-RUAA DECISION No.: 470872  
PC CODE: 018986,122990,108800,080803 ACTION CODE: R 010.0  
FOOD USE: Yes PRODUCT NAME: A19707

DATE OUT: February 25, 2015

SUBJECT: End Use Product Chemistry Review  
Product Name: A19707

FROM: Bruce F. Kitchens, Chemist  
Product Chemistry Team  
Chemistry, Inerts and Toxicology Assessment Branch/RD (7505P)

TO: RM #23, Kathryn V. Montague/Grant Rowland  
Herbicide Branch/RD (7505P)

*Bruce F. Kitchens*  
*25 Feb 2015*  
*SBM*  
*100-1466 Jasica AH.1-2*  
*9-6-15*

**INTRODUCTION:**

The registrant, Syngenta Crop Protection, LLC, is submitting an application to register the proposed end-use product, A19707. This review is part of a GJR (Global Joint Review). The active ingredients in this product is Bicyclopyrone, Mesotrione, S-Metolachlor, and Atrazine at label nominal concentrations of 0.65, 2.60, 23.40, and 10.93% a.i., respectively. This product is intended for use as an herbicide. In support of this request, the registrant is submitting a proposed basic and two alternate formula CSFs (Confidential Statement of Formula) all dated 06 Sept 2012; a draft label and product chemistry data contained in MRID# 487582-05, -06, -07, -08, -11, -12, -19, and -20. The Chemistry, Inerts and Toxicology Assessment Branch (CITAB) has been asked to review this submission.

**SUMMARY OF FINDINGS:**

1. Name of Active Ingredients: S-Metolachlor (23.40% ai)  
Atrazine (10.93% ai)  
Mesotrione (2.60% ai)  
Bicyclopyrone (0.65% ai)

Formulation Type: Soluble liquid

2. Has the registrant claimed substantial similarity to a registered product?

[ ] Yes; [ ] No; [X] NA; if yes give the registration number of the cited product.

3. All of the source materials of the active ingredient are derived from registered sources- [ ] Yes [X] No

The source of the active ingredient is currently being evaluated for registration.

DP BARCODE No.: D425308      FILE SYMBOL NO.: 100-RUAA      DECISION No.: 470872  
PC CODE: 018986, 122990, 108800, 080803      ACTION CODE: R 010.0  
FOOD USE: Yes      PRODUCT NAME: A19707

4. All inert ingredients have been screened by IIAB and are approved for the proposed labeled uses.

5. Confidential Statement of Formula:

[X] Basic -      Dated: 06 Sept 2012      Resubmitted Dated:  
[X] Alternate – Dated: 06 Sept 2012      Resubmitted Dated:

Alternate CSF complies with 40 CFR 152.43  
[X] Yes    [ ] No    [ ] NA

**CONCLUSIONS:**

CITAB has reviewed the product chemistry data submitted for the proposed end-use product and has concluded that:

1. The basic formula CSF for the proposed end-use product, A19707 dated 06 Sept 2012 is acceptable. The registration of this product is contingent upon registration of the active ingredient source.

The proposed alternate formula CSFs for the end-use product, A19707 dated 06 Sept 2012 are acceptable.

2. This submission satisfies the data requirements as specified in 40 CFR 158.320, 158.325, 158.335, 158.340, 158.350, and 158.355 with respect to product identity and composition, description of materials used to produce the product, description of formulation process, discussion of formation of impurities, certified limits, and enforcement analytical method.
3. This submission satisfies the data requirements as specified in 40 CFR 158.310 with respect to physical and chemical properties.
4. The proposed alternate formulas for the end-use product, A19707 meet the criteria specified in 40 CFR 152.43 with respect to alternate formulations.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND  
POLLUTION PREVENTION

Office of Pesticide Programs  
Registration Division (7505P)

March 4, 2015

MEMORANDUM      DER for acute toxicity studies for 100-RUAA

Subject:      Name of the Product      SYN-A 19707  
                 EPA File Symbol:      100-RUAA  
                 DP Barcode      411844  
                 Decision No      470872  
                 Action Code:      R010  
                 PC Code:      018986

From:      Princess Campbell, DVM, MS, DACVPM  
                 CITAB

Through:      John Redden, M.S. *JR*  
                 CITAB  
                 Registration Division (7505P)

To:      Grant Rowland/Kathryn Montague RM 23  
                 Herbicide Branch  
                 Registration Division (7505P)

Applicant:      Syngenta Crop Protection, LLC.  
                 Greensboro, NC 27419

FORMULATION FROM LABEL:

Active Ingredient(s):	% by wt.
S-Metolachlor	23.40
Atrazine	10.93
Mesotrione	2.60
Bicyclopyrone	0.65

<u>Other Ingredient(s):</u>	<u>62.42</u>
Total:	100.0

## BACKGROUND:

Syngenta Crop Protection, LLC has submitted a set of six acute toxicity studies to support the registration of Bicyclopyrone, an herbicide. The toxicity studies were performed by RCC Ltd, Wolferstrasse 4, Switzerland, and Safepharm between 2007 and 2008 (MRIDs 47841966-71).

Deficiencies: All studies are in compliance with EPA guidelines; any deficiency is not significant and does not affect the outcome of the study.

## FINDINGS:

All six studies have been classified as acceptable.

The toxicology profile is as follows:

Acute oral toxicity	IV	acceptable	MRID 47841966
Acute dermal toxicity	IV	acceptable	MRID 47841967
Acute inhalation	IV	acceptable	MRID 47841968
Primary eye irritation	IV	acceptable	MRID 47841970
Primary dermal irritation	IV	acceptable	MRID 47841969
Dermal sensitization	-ve	acceptable	MRID 47841971

Bicyclopyrone (A19707)  
Reviewer: Princess Campbell, DVM

LABEL:

**PRODUCT ID #:** 000100-01466

**PRODUCT NAME:** SYN-A19707

**PRECAUTIONARY STATEMENTS**

**SIGNAL WORD:** CAUTION

**Hazards to Humans and Domestic Animals:**

Wear: Long-sleeved shirt and long pants, Socks, Shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A).

**User Safety Recommendations:**

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**\*\*DER for File Symbol 100-RUAA**

<b>1. DP BARCODE:</b> 411844				
<b>2. PC CODE:</b> 018986				
<b>3. CURRENT DATE:</b> February 4, 2015				
<b>4. TEST ARTICLE:</b> NOA449280; Batch #: SEZ3AP006/MILLED; Solid beige powder;				
Study/Species/Lab Study # /Date	MRID	Results	Tox Cat	Core Grade
Acute oral toxicity / rat RCC Ltd /B35493/07-05-2007 OCSPP 870.1100; OECD 425	47841966	LD <sub>50</sub> females is > 5000 mg/kg mg/ kg	IV	A
Acute dermal toxicity /rat / RCC Ltd /B35504/07-17-2007 OCSPP 870.1200; OECD 402	47841967	Dermal LD <sub>50</sub> Males/females > 5000 mg/kg bw	IV	A
Acute inhalation toxicity / rat RCC Ltd /B45145/05-08-2008 OCSPP 870.1300; OECD 403	47841968	LC <sub>50</sub> Males and females > 5.210 mg/L MMAD= 3.10 µm GSD = 3.22 All survived exposure (nose only).	IV	A
Primary Skin irritation / rabbit RCC Ltd /B35515/05-11-2007 OCSPP 870.2400; OECD 404	47841969	Non irritating	IV	A
Primary eye irritation / rabbit RCC Ltd /B35526/07-03-2007 OCSPP 870.2500; OECD 405	47841970	Non irritating	IV	A
Dermal sensitization / mouse LLNA- Safeparm Laboratories Ltd /2364/0053/01-08-2008 OCSPP 870.2600	47841971	Negative. Positive control (15% HCA):	--	A

Core Grade Key: A =Acceptable, S = Supplementary, U = Unacceptable, D = Data Gap

**\*\* Detailed DER completed for acute toxicity studies (6 pack) in Global Joint Review format.**

**Recommendation of Division Directors  
Negotiated Due Dates**

<b>Decision #:</b> 470872, 470870,	<b>Registration #:</b> 100-RUAA	<b>Petition #:</b> 2E8098
470871, 470873,	100-RUAE	2F8097
470867, 470875	100-RUAG	

☒ See page 2 for additional registration entries

**Chemical Name:** bicyclopyrone

**Fee Category:** R010

**PRIA Decision Time Frame:** 24

**Submitted by:** Erik

Kraft

**Branch:** OCSPP/OPP/RD

**Date:** 02/27/2015

**Company:** Syngenta

**Original PRIA Due Date:** 10/30/2014

**Proposed New PRIA Due Date:** 04/21/2015

**Previous Negotiated Due Dates:** 02/27/2015

**Is the "Fix" in-house?** ☒ Yes ☐ No ☐ n/a

**If not, date "Fix" expected:**

**Negotiated Due Date Reason:**

<b>Additional Data Required</b>	<input type="checkbox"/> Product Chemistry	<input type="checkbox"/> Toxicology	<input type="checkbox"/> Acute Tox	<input type="checkbox"/> Environmental	
	<input type="checkbox"/> Efficacy	<input type="checkbox"/> Ecological	<input type="checkbox"/> Residue	<input checked="" type="checkbox"/> Other	
<b>Data Deficiencies</b>	<input type="checkbox"/> Product Chemistry	<input type="checkbox"/> Acute Tox	<input type="checkbox"/> Efficacy	<input type="checkbox"/> Residue	<input type="checkbox"/> Toxicology
	<input type="checkbox"/> Environmental	<input type="checkbox"/> Ecological	<input type="checkbox"/> Labeling	<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Not Submitted
<b>Late Risk Assessment</b>	<input type="checkbox"/> Human Health	<input type="checkbox"/> Ecological			
<b>Interim Consideration</b>	<input type="checkbox"/> Agency Initiated	<input type="checkbox"/> Registrant Initiated			
<input type="checkbox"/> CSF	<input type="checkbox"/> Public Process	<input type="checkbox"/> Risk Issues Environmental	<input type="checkbox"/> Risk Issues Human Health		
<input type="checkbox"/> Impurities Review	<input type="checkbox"/> Label	<input type="checkbox"/> Administrative-FR Notice	<input checked="" type="checkbox"/> Other – Comment Field		

**Summary of Deficiency Type(s):** ☐ Not Submitted (N) ☒ Deficiencies (D)

**Product Chemistry:** ☐ **Acute Tox:** ☐ **Efficacy:** ☐ **Labeling:** ☐ **Ecological Data:** ☐ **Other (describe):** ☒

BEAD needs additional info. / data from Syngenta to support claims & benefits of the new al herbicide bicyclopyrone

**Describe Interactions with Company (describe when contacted and company's response including response to previous negotiated due dates):**

The previous PRIA date was renegotiated to allow time for HED, EFED, and BEAD to work through issues found in their reviews. HED and EFED have worked through data gaps and other issues. BEAD needs additional time to review data on the claims, benefits, and efficacy of bicyclopyrone. BEAD has been unable to make a positive benefits determination. RD also needs additional time to go

**"75 Day" Letter sent?** ☐ Yes, Date sent

☒ No and reason for none? *Add comments on page 2*

**Rationale for Proposed Due Date:** see above

**Registrant notified that this is the last negotiation?**

☐ Yes

☒ Not Applicable

**Approve:** ☒

**Disapprove:** ☐

**If disapproved, action to be taken:**

**OD or DOD Signature:** CN=Marty Monell/OU=DC/O=USEPA/C=US

**Date:** 03/02/2015

<b>Decision #:</b> 470874	<b>Registration #:</b> 100-RUAL	<b>Petition #:</b>
	100-RUAT	

**Issue(s) (describe in detail):**

through the public process, including division director briefing, office director briefing, posting proposed decision document, 30 days comment period, reviewing comments and posting a decision document, doing a final rule, reviewing labels, etc.

**Comment(s):**

no 75 day letter because additonal info. is not guideline studies....



# Audit Trail for

## Recommendation of Division Directors Negotiated Due Dates

**PDF Name:** PRIAv5.pdf

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON D.C., 20460

OCT 01 2014

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

**MEMORANDUM**

**SUBJECT:** Alternatives to Bicyclopyrone Used in Corn

**FROM:** Carl Chen, Biologist *Carl Chen*  
Biological Analysis Branch

**THRU:** Arnet Jones, Chief *Arnet Jones*  
Biological Analysis Branch  
Biological and Economic Analysis Division (7503P)

**TO:** Grant Rowland, Risk Manager Reviewer  
Herbicide Branch  
Registration Division (7505P)

Product Review Panel: September 24, 2014

**SUMMARY**

Bicyclopyrone is a *p*-hydroxyphenyl pyruvate dioxygenase (HPPD) inhibitor, classified by the Weed Science Society of America as a Group 27 herbicide. The U.S. Environmental Protection Agency (EPA) Office of Pesticide Programs (OPP) has received an application to register bicyclopyrone for use in corn (field corn, seed corn, silage corn, sweet corn, and yellow popcorn). As part of the registration process, this document analyzes and compares currently registered herbicides with bicyclopyrone mainly on 1) if they are chosen for use in the same site by the grower; 2) if they have the same or similar mechanism of action; and 3) if they are actually used against the same or similar pest spectrum. The herbicides with the greatest usage in corn have a significant role in the development of the alternatives list. Alternatives to bicyclopyrone are recommended in Table 1.

**INTRODUCTION**

The purpose of this review is to present a list of the important registered alternatives for the crop site and pest spectrum listed in the pending requested label for bicyclopyrone. The review was

requested by the Registration Division (RD) in order to help inform the risk management position and labeling terms for this pending action. The list of leading alternatives developed by the Biological and Economic Analysis Division (BEAD) will also be shared with the Environmental Fate and Effects Division (EFED) and the Health Effects Division (HED) so that a baseline hazard comparison can be made involving these alternatives compared to the unregistered chemical bicyclopyrone.

## **APPROACH AND METHODOLOGY**

Information on the proposed use of the new active ingredient (AI), bicyclopyrone, was obtained from the pending end-use label for the new registration. When there are single AI and combination products/labels proposed for the new registration, the former is usually focused and mainly analyzed.

Currently registered herbicides were compared with the new herbicide for its proposed use mainly on 1) if they are chosen for use in the same site by the grower; 2) if they have the same or similar mode or mechanism of action (MoA); and 3) if they are actually used against the same or similar pest spectrum.

Usage data such as percent crop treated (PCT), total area treated (TAT), and/or pounds AI were obtained from an annual proprietary market survey of growers (Proprietary Data) for the years 2008 to 2012. Herbicides are usually ranked by PCT or TAT for each site or comparison. The usage information of a representative site/crop may be referenced for other or specific sites of the same crop group that have no data available.

The herbicides with the greatest usage and environmental load played a significant role in the development of the alternatives list.

## **ANALYSIS**

### **Assessment I: Use information**

The active ingredient bicyclopyrone is an unregistered herbicide with two proposed end-use products/labels. It is formulated as a single active ingredient product, SYN-A16003 Herbicide, and is also co-formulated with atrazine, mesotrione, and S-metolachlor (Appendix 1). It is proposed for use in corn (field corn, seed corn, silage corn, sweet corn, and yellow popcorn) (Appendix 2). The postemergence applications of SYN-A16003 are registered for control of broadleaf weeds, and the preemergence applications of SYN-A16003 are registered for control of broadleaf weeds, grasses, and sedges (Appendix 3).

### **Assessment II: Main criteria and comparisons**

Approximately 70 herbicides (active ingredients) are currently registered for use in corn (Appendix 4), many of which have been used recently (Appendix 5).

**Site:** Usage information from Proprietary Data is available for corn and sweet corn. The top ten herbicides used by corn growers during the period of 2008-2012 are listed in Table 2. In this review, corn with its usage information from Proprietary Data is the representative site of corn crops, except for sweet corn.

**MoA:** Bicyclopyrone is a *p*-hydroxyphenyl pyruvate dioxygenase (HPPD) inhibitor or a Group 27 herbicide classified by the Weed Science Society of America (WSSA, 2014). Some of Group 27 herbicides have been registered and used by corn growers, and the main Group 27 herbicides used during the period of 2008-2012 are listed in Table 3.

**Pest:** The postemergence applications of the single active ingredient product of bicyclopyrone, SYN-A16003, are proposed for control of broadleaf weeds only. The top ten herbicides used to control broadleaf weeds during the period of 2008-2012 are listed in Table 4. The preemergence applications of bicyclopyrone are proposed for cross-spectrum weed control, and the currently registered top ten uses for cross-spectrum weed control are also listed in Table 4.

### **Assessment III: Main considerations and selections**

#### **Corn (field corn, seed corn, silage corn, and yellow popcorn):**

Glyphosate, atrazine, acetochlor, S-metolachlor, and mesotrione are considered alternatives to bicyclopyrone since they were the top five herbicides used in corn during the period of 2008-2012 (Table 2a). Acetochlor, atrazine, and S-metolachlor were mainly used as a preemergence herbicide, treating approximately 80%, 70%, and 65% of the corn acreage prior to planting, at planting, or before crop emergence, respectively (Proprietary Data, 2008-2012). The top herbicide mainly applied post-emergence was glyphosate (Proprietary Data, 2008-2012).

Mesotrione may be considered an alternative in this review also because, like bicyclopyrone, it is a Group 27 herbicide. Mesotrione was the top Group 27 herbicide used in corn during the period of 2008-2012 (Table 3).

2,4-D is considered an alternative to bicyclopyrone since it was the top herbicide aimed solely at broadleaf weeds used by corn growers during the period of 2008-2012 (Table 4a). 2,4-D also ranked sixth among all herbicides used in corn by the grower (Table 2a).

In this review, corn with its usage information from Proprietary Data is the representative site of corn crops, except for sweet corn. The consideration and selection for alternatives to bicyclopyrone in corn applies to field corn, seed corn, silage corn, and yellow popcorn.

#### **Sweet corn:**

Atrazine, S-metolachlor, topramezone, glyphosate, and mesotrione are considered alternatives to bicyclopyrone since they were the top five herbicides used in sweet corn during the period of 2008-2012 (Table 2b). Among them, topramezone was the top Group 27 herbicide (Table 3), and atrazine was the top herbicide used by sweet corn growers mainly for broadleaf weed control during the period of 2008-2012 (Table 4b). Topramezone was mainly used as a postemergence

herbicide and glyphosate was almost exclusively used as a preemergence herbicide by sweet corn growers (Proprietary Data, 2008-2012).

## CONCLUSION

This work is intended to assist reviews of the application for registration of bicyclopyrone conducted in RD, EFED, and HED. The herbicides recommended as alternatives to bicyclopyrone are listed in Table 1. They are important and leading registered alternatives used by the grower for the crop site and pest spectrum listed in the pending label for bicyclopyrone.

**Table 1. Bicyclopyrone alternatives recommended by BEAD.**

Field corn	Seed corn	Silage corn	Yellow popcorn	Sweet corn
Glyphosate	Glyphosate	Glyphosate	Glyphosate	Atrazine
Atrazine	Atrazine	Atrazine	Atrazine	S-metolachlor
Acetochlor	Acetochlor	Acetochlor	Acetochlor	Topramezone
S-metolachlor	S-metolachlor	S-metolachlor	S-metolachlor	Glyphosate
Mesotrione	Mesotrione	Mesotrione	Mesotrione	Mesotrione
2,4-D	2,4-D	2,4-D	2,4-D	

**Table 2a. Top herbicides used in corn (2008-2012).**

Active Ingredient	Percent Crop Treated (%, annual)	Total Area Treated (acres, annual)	Base Area Treated (acres, annual)	Pounds AI (annual)
Glyphosate	77.8	92,400,000	69,800,000	79,000,000
Atrazine	56.5	59,700,000	50,500,000	57,700,000
Acetochlor	24.8	22,900,000	22,200,000	30,200,000
Metolachlor-S	21.5	20,500,000	19,200,000	23,000,000
Mesotrione	15.1	14,400,000	13,500,000	1,600,000
2,4-D	9.3	9,200,000	8,400,000	4,600,000
Dicamba	8.7	8,800,000	7,800,000	1,200,000
Isoxaflutole	6.9	6,300,000	6,200,000	345,000
Clopyralid	5.8	5,400,000	5,300,000	430,000
Flumetsulam	5.8	5,400,000	5,300,000	163,000

*Note: Proprietary Data 2008-2012. Active ingredients are arranged by percent crop treated. Some herbicides in the list of active ingredients are reported as acid equivalent in Proprietary Data.*

**Table 2b. Top herbicides used in sweet corn (2008-2012).**

Active Ingredient	Percent Crop Treated (%, annual)	Total Area Treated (acres, annual)	Base Area Treated (acres, annual)	Pounds AI (annual)
Atrazine	70.2	424,000	386,000	348,000
Metolachlor-S	40.3	228,000	221,000	305,000
Topramezone	18.6	104,000	102,000	1,600
Glyphosate	18.1	115,000	99,000	133,000
Mesotrione	16.9	94,000	93,000	12,000

Tembotrione	14.1	78,000	78,000	6,300
Dimethenamid-P	13.1	74,000	72,000	60,000
Acetochlor	6.3	35,000	34,000	65,000
Pendimethalin	6.1	35,000	34,000	31,000
Nicosulfuron	5.4	30,000	30,000	800

Note: Proprietary Data 2008-2012. Active ingredients are arranged by percent crop treated.

**Table 3. Group 27 herbicides used by corn growers.**

Active Ingredient	Percent Crop Treated (%, annual)	Total Area Treated (acres, annual)	Base Area Treated (acres, annual)	Pounds AI (annual)
<b>Corn</b>				
Mesotrione	15.1	14,400,000	13,500,000	1,600,000
Isoxaflutole	6.9	6,300,000	6,200,000	345,000
<b>Sweet Corn</b>				
Topramezone	18.6	104,000	102,000	1,600
Mesotrione	16.9	94,000	93,000	12,000

Note: Proprietary Data 2008-2012. Active ingredients are arranged by percent crop treated.

**Table 4a. Top herbicides used in corn by the grower aimed at similar pest spectrum proposed for bicyclopyrone.**

Broadleaf Weeds		Cross Spectrum Weeds	
Active Ingredient	Total Area Treated (acres, annual)	Active Ingredient	Total Area Treated (acres, annual)
Atrazine	25,600,000	Glyphosate	92,400,000
2,4-D	9,200,000	Atrazine	34,000,000
Dicamba	8,500,000	Acetochlor	18,800,000
Mesotrione	4,400,000	Metolachlor-S	18,300,000
Di flufenzopyr	4,000,000	Mesotrione	13,700,000
Isoxaflutole	3,600,000	Clopyralid	4,000,000
Flumetsulam	1,400,000	Flumetsulam	4,000,000
Clopyralid	1,400,000	Rimsulfuron	3,000,000
Carfentrazone-ethyl	552,000	Thiencarbazone-methyl	2,900,000
Flumioxazin	514,000	Tembotrione	2,700,000

Note: The usage information indicates the pest spectrum targeted by corn growers when using herbicides (Proprietary Data 2008-2012). Active ingredients are arranged by total area treated. The postemergence applications of bicyclopyrone are proposed for use to control broadleaf weeds only; and its preemergence applications are proposed for cross-spectrum weed control including broadleaf weeds, grasses, and sedges.

**Table 4b. Top herbicides used in sweet corn by the grower aimed at similar pest spectrum proposed for bicyclopyrone.**

Broadleaf Weeds		Cross Spectrum Weeds	
Active Ingredient	Total Area Treated (acres, annual)	Active Ingredient	Total Area Treated (acres, annual)
Atrazine	310,000	Glyphosate	115,000

Mesotrione	44,000	Atrazine	114,000
Bentazone	32,000	Topramezone	104,000
Carfentrazone-ethyl	17,000	Metolachlor-S	92,000
2,4-D	13,000	Tembotrione	78,000
Halosulfuron	6,000	Mesotrione	51,000
Simazine	4,000	Acetochlor	14,000
Dicamba	2,300	Dimethenamid	7,000
Diffenflufenpyr	2,200	Dimethenamid-P	6,000
Clopyralid	1,800	Clopyralid	5,000

Note: Proprietary Data 2008-2012. Active ingredients are arranged by total area treated.

## REFERENCES

Proprietary Data. 2008-2012.

Syngenta. 2014. Proposed bicyclopyrone products/labels (submitted to EPA for new herbicide registration). Syngenta Crop Protection, LLC.

WSSA. 2014. Summary of herbicide mechanism of action. Weed Science Society of America (WSSA). Available at <http://wssa.net/wp-content/uploads/WSSA-Mechanism-of-Action.pdf>.

## APPENDICES

### Appendix 1. Proposed products/labels.

Product/label	Bicyclopyrone	Other AI(s)
SYN-A16003 Herbicide	Yes	No
SYN-A19707 Herbicide	Yes	Atrazine; Mesotrione; s-Metolachlor
Bicyclopyrone Technical		
Bicyclopyrone Wet Paste Manufacturing Use		
Bicyclopyrone Wet Paste II Manufacturing Use		

Note: Two end-use products/labels.

### Appendix 2. Proposed use sites.

Site <sup>1</sup>	OPP/NPIRS Registration Information	Usage Information <sup>2</sup>
Field corn	Y <sup>3</sup>	N
Seed corn	Y	N
Silage corn	Y	N
Sweet corn	Y	Y
Yellow popcorn	Y	N
Corn (Unspecified)	Y	Y

Note: <sup>1</sup>Same use sites are proposed in two end-use products/labels. <sup>2</sup>Proprietary Data 2008-2012. <sup>3</sup>Y (Yes) or N (No data or not surveyed).



### Appendix 3. Pests listed.

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#### Weeds targeted - Postemergence applications of SYN-A16003 Herbicide:

Carpetweed	<i>Mollugo verticillata</i> C
Chickweed, common	<i>Stellaria media</i> C
Cocklebur, common	<i>Xanthium strumarium</i> C
Jimsonweed	<i>Datura stramonium</i> C
Horseweed (marestail)	<i>Conyza canadensis</i> PC
Kochia	<i>Kochia scoparia</i> C
Lambsquarters, common	<i>Chenopodium album</i> C
Mallow, Venice	<i>Hibiscus trionum</i> C
Morningglory, entireleaf	<i>Ipomoea hederacea</i> C
Morningglory, ivyleaf	<i>Ipomoea hederacea</i> C
Morningglory, pitted	<i>Ipomoea lacunosa</i> C
Mustard, wild	<i>Brassica kaber</i> C
Nightshade, black	<i>Solanum nigrum</i> C
Nightshade, Eastern black	<i>Solanum ptycanthum</i> C
Pigweed, redroot	<i>Amaranthus retroflexus</i> C
Pigweed, smooth	<i>Amaranthus hybridus</i> C
Ragweed, common	<i>Ambrosia artemisiifolia</i> C
Ragweed, giant	<i>Ambrosia trifida</i> C
Sesbania, hemp	<i>Sesbania exaltata</i> C
Sida, prickly (teaweed)	<i>Sida spinosa</i> C
Smartweed, ladysthumb	<i>Polygonum persicaria</i> C
Smartweed, pale	<i>Polygonum lapathifolium</i> C
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i> C
Sunflower, common	<i>Helianthus annuus</i> C
Velvetleaf	<i>Abutilon theophrasti</i> C
Waterhemp, common	<i>Amaranthus rudis</i> C
Waterhemp, tall	<i>Amaranthus tuberculatus</i> C

#### Weeds targeted - Preemergence applications of SYN-A16003 Herbicide:

##### *Broadleaf Weeds*

Amaranth, Palmer	<i>Amaranthus palmeri</i> C
Amaranth, Powell	<i>Amaranthus powellii</i> C
Beggarweed, Florida	<i>Desmodium tortuosum</i> PC
Carpetweed	<i>Mollugo verticillata</i> C
Eclipta	<i>Eclipta prostrata</i> PC
Galinsoga, hairy	<i>Galinsoga quadriradiata</i> C
Galinsoga, smallflower	<i>Galinsoga parviflora</i> C
Nightshade, Eastern black	<i>Solanum ptychanthum</i> C
Nightshade, hairy	<i>Solanum physalifolium</i> PC
Pigweed, prostrate	<i>Amaranthus blitoides</i> C
Pigweed, redroot	<i>Amaranthus retroflexus</i> C
Pigweed, smooth	<i>Amaranthus hybridus</i> C
Pigweed, tumble	<i>Amaranthus albus</i> C
Purslane, common	<i>Portulaca oleracea</i> PC

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Pusley, Florida	<i>Richardia scabra</i> C
Waterhemp, common	<i>Amaranthus rudis</i> C
Waterhemp, tall	<i>Amaranthus tuberculatus</i> C
<i>Grass Weeds</i>	
Barnyardgrass	<i>Echinochloa crus-galli</i> C
Crabgrass, large	<i>Digitaria ischaemum</i> C
Crabgrass, smooth	<i>Digitaria sanguinalis</i> C
Foxtail, giant	<i>Setaria faberi</i> C
Foxtail, green	<i>Setaria viridis</i> C
Foxtail, yellow	<i>Setaria pumila</i> C
Goosegrass	<i>Eleusine indica</i> C
Johnsongrass (seedling)	<i>Sorghum halepense</i> PC
Millet, wild-proso	<i>Panicum miliaceum</i> PC
Panicum, fall	<i>Panicum dichotomiflorum</i> C
Rice, red	<i>Oryza punctata</i> C
Sandbur, field	<i>Cenchrus spinifex</i> PC
Shattercane	<i>Sorghum bicolor</i> PC
Signalgrass, broadleaf	<i>Urochloa platyphylla</i> C
Sorghum (volunteer)	<i>Sorghum bicolor</i> PC
Witchgrass	<i>Panicum capillare</i> C
<i>Sedges</i>	
Nutsedge, yellow	<i>Cyperus esculentus</i> C

Note: From Tables 1 & 2 of the pending label of SYN-A16003. C (controlled) or PC (partially controlled).

#### Appendix 4. Herbicides currently registered in corn.

<u>Active Ingredient</u>	<u>PC Codes</u>
Acetic acid, (2,4-dichlorophenoxy)-, 2-ethylhexyl ester	30063
Acetochlor	121601
Alachlor	90501
Atrazine	80803
Bensulide	9801
Bromoxynil octanoate	35302
Butoxyethyl 2,4-dichlorophenoxyacetate	30053
Carfentrazone-ethyl	128712
Chloropicrin	81501
Clethodim	121011
Clopyralid	117403
Clopyralid, monoethanolamine salt	117401
Dicamba	29801
Dicamba, diglycoamine salt	128931
Dicamba, dimethylamine salt	29802
Dicamba, potassium salt	129043
Dicamba, sodium salt	29806
2,4-Dichlorophenoxyacetic acid	30001
1,3-Dichloropropene	29001
Diethanolamine (2,4-dichlorophenoxy)acetate	30016

Dimethenamid	129051
Dimethenamide-P	120051
Dimethylamine 2,4-dichlorophenoxyacetate	30019
Diuron	35505
EPTC	41401
2-(Ethylamino)-4-(isopropylamino)-6-(methylthio)-s-triazine	80801
Flufenacet	121903
Flumetsulam	129016
Flumioxazin	129034
Fluroxypyr meptyl	128968
Fluthiacet-methyl	108803
Glufosinate ammonium	128850
Glycine, N-(phosphonomethyl)- potassium salt	103613
Glycine, N-(phosphonomethyl)-, diammonium salt	103607
Glyphosate	417300
Glyphosate, ammonium salt	103604
Glyphosate, dimethylammonium salt	103608
Glyphosate-isopropylammonium	103601
Halosulfuron-methyl	128721
Imazapic	129041
Iodosulfuron-methyl-sodium	122021
Isooctyl(2-ethyl-4-methylpentyl) 2,4-dichlorophenoxyacetate	30064
Isopropylamine 2,4-dichlorophenoxyacetate	30025
Isoxaflutole	123000
Linuron	35506
Mesotrione	122990
Metam-sodium	39003
Methyl bromide (NO INERT USE)	53201
S-Metolachlor	108800
Metolachlor	108801
Metribuzin	101101
Nicosulfuron	129008
Nitrapyrin	69203
Nonanoic acid	217500
Oxyfluorfen	111601
Paraquat dichloride	61601
Pendimethalin	108501
Primisulfuron-methyl	128973
Pyraflufen-ethyl	30090
3-Pyridinecarboxylic acid, 2-{1-{{{(3,5-difluorophenyl)amino} **	5107
Rimsulfuron	129009
Simazine	80807
Sodium bentazon	103901
Sodium chlorate	73301
Sulfentrazone	129081
Tembotrione	12801

Thiencarbazone-methyl	15804
Thifensulfuron methyl	128845
Topramezone	123009
Tribenuron-methyl	128887
Trifluralin	36101
Triisopropanolamine 2,4-dichlorophenoxyacetate	30035

Note: A preliminary list from searching OPPIN/NPIRS/CDMS.

#### Appendix 5. All corn herbicides used in 2012.

CORN	PCT (%)	SWEET CORN	PCT (%)
GLYPHOSATE	< 85	ATRAZINE	< 70
ATRAZINE	< 55	METOLACHLOR-S	< 40
ACETOCHLOR	< 30	GLYPHOSATE	< 30
METOLACHLOR-S	< 30	TOPRAMEZONE	< 30
MESOTRIONE	< 30	TEMBOTRIONE	< 30
2,4-D	< 20	MESOTRIONE	< 20
DICAMBA	< 20	DIMETHENAMID-P	< 20
CLOPYRALID	< 10	ACETOCHLOR	< 10
FLUMETSULAM	< 10	PENDIMETHALIN	< 10
ISOXAFLUTOLE	< 10	NICOSULFURON	< 5
THIENCARBAZONE-METHYL	< 10	BENTAZONE	< 5
DIFLUFENZOPYR	< 10	METOLACHLOR	< 5
TEMBOTRIONE	< 10	CARFENTRAZONE-ETHYL	< 5
RIMSULFURON	< 5	2,4-D	< 5
DIMETHENAMID-P	< 5	ALACHLOR	< 5
SAFLUFENACIL	< 5	DIMETHENAMID	< 5
THIFENSULFURON	< 5	CLOPYRALID	< 1
SIMAZINE	< 5	SETHOXYDIM	< 1
METOLACHLOR	< 5	FLUTHIACET-METHYL	< 1
DIMETHENAMID	< 5	HALOSULFURON	< 1
TOPRAMEZONE	< 5	FORAMSULFURON	< 1
NICOSULFURON	< 5	SIMAZINE	< 1
GLUFOSINATE	< 5	DICAMBA	< 1
PARAQUAT	< 5	DIFLUFENZOPYR	< 1
FLUTHIACET-METHYL	< 5	LACTOFEN	< 1
FLUMIOXAZIN	< 1	SAFLUFENACIL	< 1
PENDIMETHALIN	< 1	DIURON	< 1
CARFENTRAZONE-ETHYL	< 1	PARAQUAT	< 1
ALACHLOR	< 1	TRIFLURALIN	< 1
METRIBUZIN	< 1	ISOXAFLUTOLE	< 1
OXYFLUORFEN	< 1	THIENCARBAZONE-METHYL	< 1
FLUROXYPYR	< 1	OXYFLUORFEN	< 1
IODOSULFURON	< 1	FLUROXYPYR	< 1
PRIMISULFURON	< 1	CLETHODIM	< 1

HALOSULFURON	< 1	EPTC	< 1
TRIBENURON METHYL	< 1		
PROSULFURON	< 1		
SULFENTRAZONE	< 1		
IMAZETHAPYR	< 1		
FLUFENACET	< 1		
TRIFLURALIN	< 1		
IMAZAPYR	< 1		
FORAMSULFURON	< 1		
FLUMICLORAC	< 1		
BENTAZONE	< 1		
CLETHODIM	< 1		
BROMOXYNIL	< 1		
CHLORSULFURON	< 1		
LINURON	< 1		
METSULFURON	< 1		
PYROXASULFONE	< 1		
SETHOXYDIM	< 1		

*Note: Proprietary Data 2012. Active ingredients are arranged by percent crop treated (%).*



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September 23<sup>rd</sup>, 2013

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Arlington, VA 22202-4501

**Attn: Ms. Kathryn Montague, PM Team 23, Herbicide Branch  
Registration Division**

**SUBJECT: BICYCLOPYRONE (SYN/NOA449280)  
RESPONSE TO DEFICIENCIES NOTED DURING  
REVIEW-HUMAN TOXICITY**

- Bicyclopyrone (EPA Reg. No. 100-RUAT)
- Bicyclopyrone Wet Paste Manufacturing Use Product  
(EPA Reg. No. 100-RUAE)
- Bicyclopyrone Wet Paste II Manufacturing Use Product  
(EPA Reg. No. 100-RUAG)
- Bicyclopyrone End Use Product A19707A  
(EPA Reg. No. 100-RUAA)
- Bicyclopyrone End Use Product A16003E  
(EPA Reg. No. 100-RUAL)

Dear Ms. Montague,

Syngenta Crop Protection, LLC, respectfully submits a response document to address the Agency questions via email (G.Rowland, EPA, September 9, 2013, see enclosed) noted during the review of the previously submitted human toxicity data package (September 28, 2012) for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste MUP and Wet Paste II MUP (EPA Reg No. 100-RUAE, RUAG, respectively) end use products A16003E herbicide (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA). Bicyclopyrone was submitted as part of the Global Joint Review (GJR) process between the US (EPA), Canada (PMRA) and Australia (APVMA). The following documents are enclosed to support this response submission:

"Syngenta Response to EPA Request for Data Noted During Review-Bicyclopyrone Technical, A16003 Herbicide and A19707 Herbicide", Syngenta Crop Protection, LLC, Greensboro, NC, TK0218991, September 23, 2013. (MRID 49179001).

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Page 2 of 2 Bicyclopyrone (SYN/NOA449280) – Response to Deficiencies Noted During Review-Human Toxicity  
K. Montague  
September 23<sup>rd</sup>, 2013

- Five completed EPA Application for Pesticide Registration Form 8570-1; one for each technical product and each end use formulation.
- Certification with Respect to Citation of Data Form 8570-34; one all-inclusive to support the active ingredient Bicyclopyrone (SYN/NOA449280). Bicyclopyrone includes the technical products (Bicyclopyrone, Bicyclopyrone Wet Paste MUP and Bicyclopyrone Wet Paste II MUP) and the (2) end use formulations (A16003E and A19707A).
- Data Matrix; one all-inclusive to support the active ingredient registration, Bicyclopyrone (SYN/NOA449280). Bicyclopyrone includes the technical products (Bicyclopyrone, Bicyclopyrone Wet Paste MUP and Bicyclopyrone Wet Paste II MUP) and the (2) end use formulations (A16003E and A19707A).
- Transmittal Document.

To address items #3 and #4 of the Agency's email, Syngenta respectfully submits the requested WORD documents. For the majority of the final reports, the complete original version was produced in WORD and converted to PDF format. For a minority of the final study reports, some Appendices originated in PDF and hence WORD versions of these are not available. With these few noted exceptions, the WORD versions, to the best of Syngenta's knowledge, represent an accurate copy of the data in the PDF version. Syngenta respectfully requests that the Portable Document Format (PDF) of all final study reports submitted in September 2012 remain the primary/official version. Per agreement with USEPA (K. Montague and front end screen personnel, telecon, December 3, 2012), inclusion of 86-5 front end pages are not necessary for these WORD documents.

#### **Fees for Service**

In compliance with the Pesticide Registration Improvement Act (PRIA II), Syngenta has prepaid the required pesticide registration fee for this action. This action was assigned a PRIA category of R010 (Food Use), at a cost of \$569,221. Since this is a response document to the Agencies' questions under the currently assigned PRIA, no additional fees are necessary at this time. Please email my regulatory assistant Pat Eay at [pat.eay@syngenta.com](mailto:pat.eay@syngenta.com) if you have any questions on this action.

If you have any questions regarding this submission, please contact me at 336-632-2409, fax: 336-632-5688, or email [tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com).

Sincerely,

Tamara Murphy  
Regulatory Product Manager, Herbicides

Enclosures

**VOLUME 1 OF 2 OF SUBMISSION  
(TRANSMITTAL DOCUMENT)****1. Name and Address of Submitter**

Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, NC 27419

**2. Regulatory Action in Support of which this Package is Submitted**

Submission of Response to EPA Request for Data Noted During  
Review - Bicyclopyrone Technical, A16003E Herbicide, and A19707A  
Herbicide.

Bicyclopyrone Tech (EPA Reg. No. 100-RUAT);  
Bicyclopyrone Wet Paste MUP (EPA Reg. No. 100-RUAE);  
Bicyclopyrone Wet Paste II MUP (EPA Reg. No. 100-RUAG);  
Bicyclopyrone End Use Product A19707A (EPA Reg. No. 100-RUAA)  
Bicyclopyrone End Use Product A16003E (EPA Reg. No. 100-RUAL)

**3. Transmittal Date**

09/23/2013

**4. List of Submitted Studies**

MRID NUMBER	VOLUME NUMBER	STUDY TITLE	EPA GUIDELINE NUMBER
49179000	1 OF 2	Transmittal Document	N/A
49179001	2 OF 2	Syngenta Response to EPA Request for Data Noted During Review - Bicyclopyrone Technical, A16003 Herbicide, and A19707 Herbicide, , (NOA449280_50599)	Not Applicable

COMPANY OFFICIAL: TAMARA MURPHY  
(NAME)

*Tamara Murphy*  
(SIGNATURE)

COMPANY NAME: SYNGENTA CROP PROTECTION, LLC

COMPANY CONTACT: TAMARA MURPHY  
(NAME)

(336) 632-2409  
(PHONE)

E-SUBMISSION





## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

401 M STREET, S.W.

WASHINGTON, D.C. 20460

**Paperwork Reduction Act Notice:** The public reporting burden for this collection of information is estimated to average 1.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the completed form to this address.

## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-RUAA
Active Ingredient(s) and/or representative test compound(s) Bicyclopyrone/Mesotrione/S-Metolachlor/Atrazine	Date September 23, 2013
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Food Uses	Product Name <b>A19707A (Bicyclopyrone End Use Product)</b>

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

## SECTION I: METHOD OF DATA SUPPORT (Check one method only)

☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

## SECTION II: GENERAL OFFER TO PAY

Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 9-23-2013	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
---------------	-------------------	--

EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

E-SUBMISSION



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Form Approved OMB No. 2070-0060

401 M Street  
WASHINGTON, D.C. 20460

Paperwork Reduction Act Notice: The public reporting burden for this collection of information is estimated to average 0.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the form to this address.

## DATA MATRIX

Date: 9/23/2013		Reg. No:100-RUAA		Page 1 of 4	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: SYN-A19707			
Ingredient: Bicyclopyrone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Not Applicable (49)	Response to EPA Request for Data Noted During Rev	49179001	SYNGENTA	OWN	
Section 1	MII 1 - Identity and PhysCem Properties	48758219	SYNGENTA	OWN	
Section 2	MII 2 - Analytical methods	48758220	SYNGENTA	OWN	
Section 3	MII 3 - Toxicity and Metabolism Summary	48758221	SYNGENTA	OWN	
Section 4	MII 4 - Residues and Plant Metabolism Summary	48758222	SYNGENTA	OWN	
Section 5	MII 5 - Efate Behaviour in the Environment Sumamry	48758223	SYNGENTA	OWN	
Section 6	MII 6 - Ecotoxixcity Summary	48758224	SYNGENTA	OWN	
Section 7	MIII 7 - Efficacy Data Summary	48758225	SYNGENTA	OWN	
Cite-All	Cite-All	Cite-All (AHE	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART	OUTDOOR RESIDENT	PER	
Cite-All	Cite-All	Cite-All (FES	FIFRA ENDANGERED	PER	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

Date: 9/23/2013

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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## DATA MATRIX

Date: 9/23/2013		Reg. No:100-RUAA		Page 2 of 4	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: SYN-A19707			
Ingredient: Bicyclopyrone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Cite-All	Cite-All	Cite-All (ORE	OUTDOOR RESIDENT	PER	
Cite-All	Cite-All	Cite-All (SDT	SPRAY DRIFT TF	PER	
Cite-All	Cite-All	Cite-All (UST	U.S. TRIAZOLE TASK	PER	
830.1550	Product identity and composition	48758205	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	48758205	SYNGENTA	OWN	
830.1650	Description of Formulation process	48758205	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	48758205	SYNGENTA	OWN	
830.1750	Certified limits	48758205	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758211	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758212	SYNGENTA	OWN	
830.6302	Color	48758206	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/23/2013



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 9/23/2013

Reg. No:100-RUAA

Page 3 of 4

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: SYN-A19707

Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6303	Physical state	48758206	SYNGENTA	OWN	
830.6304	Odor	48758206	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	48758208	SYNGENTA	OWN	
830.6315	Flammability	48758207	SYNGENTA	OWN	
830.6316	Explosibility	48758207	SYNGENTA	OWN	
830.7000	pH	48758206	SYNGENTA	OWN	
830.7100	Viscosity	48758206	SYNGENTA	OWN	
830.7300	Density/relative density/bulk density	48758206	SYNGENTA	OWN	
870.1100	Acute oral toxicity	48758213	SYNGENTA	OWN	
870.1100	Acute oral toxicity	48996002	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	48758214	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/23/2013



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 9/23/2013	Reg. No:100-RUAA	Page 4 of 4
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419	Product: SYN-A19707	

Ingredient: Bicyclopyrone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1200	Acute dermal toxicity	48996005	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	48758215	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	48996003	SYNGENTA	OWN	
870.2400	Acute eye irritation	48758216	SYNGENTA	OWN	
870.2400	Acute eye irritation	48996004	SYNGENTA	OWN	
870.2500	Acute dermal irritation	48758217	SYNGENTA	OWN	
870.2500	Acute dermal irritation	48996006	SYNGENTA	OWN	
870.2600	Skin sensitization	48758218	SYNGENTA	OWN	
870.2600	Skin sensitization	48996001	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/23/2013

70



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number <b>100-RUAA</b>	2. EPA Product Manager <b>Ms. Kathryn Montague</b>	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) <b>A19707A (Bicyclopyrone End Use Product)</b>	PM# <b>PM Team 23</b>	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, LLC P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.).

Syngenta Crop Protection, LLC, respectfully submits a response document to address the Agency questions via email (G.Rowland, EPA, September 9, 2013, see enclosed) noted during the review of the previously submitted human toxicity data package (September 28, 2012) for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste MUP and Wet Paste II MUP (EPA Reg No. 100-RUAE, RUAG, respectively) end use products A16003E herbicide (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA). Bicyclopyrone was submitted as part of the Global Joint Review (GJR) process between the US (EPA), Canada (PMRA) and Australia (APVMA).

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
				<input checked="" type="checkbox"/> Plastic	
				<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
*Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per Container	If "Yes" Unit Packaging wgt.	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u>			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name <b>Tamara Murphy</b>		Title <b>Regulatory Product Manager</b>		Telephone No. (Include Area Code) <b>(336) 632-2409</b>	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)
2. Signature 		3. Title <b>Regulatory Product Manager</b>			
4. Typed Name <b>Tamara Murphy</b>		5. Date <b>9-23-2013</b>			





**Tamara Murphy**  
Regulatory Product Manager  
Regulatory Affairs  
Herbicides  
(336) 632-2409 (phone)  
(336) 632-5688 (fax)  
[tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com)

**Syngenta Crop Protection, LLC**  
P.O. Box 18300  
Greensboro, NC 27419-8300  
[www.syngenta.com](http://www.syngenta.com)

**FedEx**

**CONFIDENTIAL BUSINESS INFORMATION ENCLOSED**

**February 1<sup>st</sup>, 2013**

**Document Processing Desk (E-SUB)**  
**Office of Pesticide Programs (7504P)**  
**U.S. Environmental Protection Agency**  
**Room S-4900, One Potomac Yard**  
**2777 South Crystal Drive**  
**Arlington, VA 22202-4501**

**Attn: Ms. Kathryn Montague, PM Team 23, Herbicide Branch**  
**Registration Division**

**SUBJECT: BICYCLOPYRONE (SYN/NOA449280)**  
**RESPONSE TO DEFICIENCIES NOTED DURING**  
**COMPLETENESS CHECK**

- **Bicyclopyrone (EPA Reg. No. 100-RUAT)**
- **Bicyclopyrone Wet Paste Manufacturing Use Product**  
**(EPA Reg. No. 100-RUAE)**
- **Bicyclopyrone Wet Paste II Manufacturing Use Product**  
**(EPA Reg. No. 100-RUAG)**
- **Bicyclopyrone End Use Product A19707A**  
**(EPA Reg. No. 100-RUAA)**
- **Bicyclopyrone End Use Product A16003E**  
**(EPA Reg. No. 100-RUAL)**

**Dear Ms. Montague,**

Syngenta Crop Protection, LLC, respectfully submits a response document to address the Agencies comments (EPA, PMRA and APVMA) via letter (K. Montague, EPA, January 3, 2013) noting deficiencies during the completeness check of the previously submitted data package (September 28, 2012) for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste MUP and Wet Paste II MUP (EPA Reg No. 100-RUAE, RUAG, respectively) end use products A16003E herbicide (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA). Bicyclopyrone was submitted as part of the Global Joint Review (GJR) process between the US (EPA), Canada (PMRA) and Australia (APVMA). The following documents are enclosed to support this response submission:

"Syngenta Response to EPA, PMRA and APVMA Deficiencies Noted During Completeness Check-Bicyclopyrone Technical, A16003E Herbicide and A19707 Herbicide" Syngenta Crop Protection, LLC, Greensboro, NC, TK0177883, February 1, 2013. (MRID 48933204).

"Determination of Residues of NOA449280 and SYN503780 in Vegetal Samples by LC/MS/MS", Syngenta Protecao de Cultivos Ltda., Sao Paulo, Brazil, TK0177861, June 22, 2011, (MRID 48933201).

**E-SUBMISSION**



Page 2 of 2 Bicyclopyrone (SYN/NOA449280) – Response to Deficiencies Noted During Completeness Check  
K. Montague  
February 1<sup>st</sup>, 2013

"Determination of NOA449280, CSAA915194 and CSAA806573 Residues in Vegetable Samples by LC/MS/MS" , Syngenta Protecao de Cultivos Ltda., Sao Paulo, Brazil, TK0177862, June 22, 2011, (MRID 48933202).

"Response to APVMA/DSEWPaC Screening Notes, 22 November 2012 (Ecotoxicology)", Syngenta Crop Protection, LLC, Greensboro, NC, TK0009285, January 24, 2013. (MRID 48933203).

Five Completed EPA Application for Pesticide Registration Form 8570-1; one for each technical product and each end use formulation.

Certification with Respect to Citation of Data Form 8570-34; one all-inclusive for the technical products (includes Bicyclopyrone, Bicyclopyrone Wet Paste MUP and Bicyclopyrone Wet Paste II MUP).

Data Matrix; one all-inclusive for the technical products (includes Bicyclopyrone, Bicyclopyrone Wet Paste MUP and Bicyclopyrone Wet Paste II MUP).

Transmittal Document.

#### **Fees for Service**

In compliance with the Pesticide Registration Improvement Act (PRIA II), Syngenta has prepaid the required pesticide registration fee for this action. This action was assigned a PRIA category of R010 (Food Use), at a cost of \$569,221. Since this is a response document to the Agencies' questions under the currently assigned PRIA, no additional fees are necessary at this time. Please email my regulatory assistant Pat Eay at [pat.eay@syngenta.com](mailto:pat.eay@syngenta.com) if you have any questions on this action.

If you have any questions regarding this submission, please contact me at 336-632-2409, fax: 336-632-5688, or email [tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com) .

Sincerely,

Tamara Murphy  
Regulatory Product Manager, Herbicides

Enclosures





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number <b>100-RUAA</b>	2. EPA Product Manager <b>Ms. Kathryn Montague</b>	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) <b>A19707A (Bicyclopyrone End Use Product)</b>	PM# <b>PM Team 23</b>	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, LLC P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

## Section - II

- ☐ Amendment - Explain below. ☐ Final printed labels in response to Agency letter dated \_\_\_\_\_
- ☐ Resubmission in response to Agency letter dated \_\_\_\_\_ ☐ "Me Too" Application.
- ☐ Notification - Explain below. ☒ Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)

Syngenta Crop Protection, LLC, respectfully submits a response document to address the Agencies comments (EPA, PMRA and APVMA) via letter (K. Montague, EPA, January 3, 2013) noting deficiencies during the completeness check of the previously submitted data package (September 28, 2012) for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste and Wet Paste II (EPA Reg No. 100-RUAE, RUAG, respectively) end use products SYN-A16003 herbicide (EPA Reg No. 100-RUAL) and A-19707 herbicide (EPA Reg No. 100-RUAA). Bicyclopyrone was submitted as part of the Global Joint Review (GJR) process between the US (EPA), Canada (PMRA) and Australia (APVMA).

## Section - III

1. <b>Material This Product Will Be Packaged In:</b>				2. <b>Type of Container</b>	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
*Certification must be submitted				<input type="checkbox"/> Plastic	
If "Yes" Unit Packaging wgt. No. per Container		If "Yes" Unit Packaging wgt. No. per container		<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container <b>2.5 gal, 120 gal, 220 gal, 330 gal and Bulk</b>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			
		<input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u>			

## Section - IV

1. <b>Contact Point</b> (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name <b>Tamara Murphy</b>		Title <b>Regulatory Product Manager</b>	
		Telephone No. (Include Area Code) <b>(336) 632-2409</b>	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature 		3. Title <b>Regulatory Product Manager</b>	
4. Typed Name <b>Tamara Murphy</b>		5. Date <b>2-1-2013</b>	

**Fee for Service**

*W*  
{930210W~

This package includes the following

☐ New Registration

☒ Amendment

☒ Studies? ☐ Fee Waiver?

☐ volpay % Reduction: \_\_\_\_

for Division

☐ AD

☐ BPPD

☒ RD

Risk Mgr.

**23**

Receipt No.

S-

**930210**

EPA File Symbol/Reg. No.

**100-RUAA**

Pin-Punch Date:

**1/31/2013**



This item is NOT subject to FFS action.

Action Code:

Requested:

Granted:

Amount Due: \$ \_\_\_\_

Parent/Child Decisions:

☒ Inert Cleared for Intended Use

☐ Uncleared Inert in Product

Reviewer: *Schaub*

Date: *2/4/13*

Remarks:

*resubmission*

E-SUBMISSION

**VOLUME 1 OF 7 OF SUBMISSION  
(TRANSMITTAL DOCUMENT)**

**1. Name and Address of Submitter**

Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, NC 27419

**2. Regulatory Action in Support of which this Package is Submitted**

Submission of OECD Summaries (Human Toxicity) for A19707  
Herbicide

**3. Transmittal Date**

01/30/2013

**4. List of Submitted Studies**

MRID NUMBER	VOLUME NUMBER	STUDY TITLE	EPA GUIDELINE NUMBER
48996000	1 OF 7	Transmittal Document	N/A
48996001	2 OF 7	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Local Lymph Node Assay (LLNA) in Mice (Supplemental to MRID 48758218), 34355, (A19707A_50031)	870.2600
48996002	3 OF 7	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Acute Oral Toxicity Up-and-Down Procedure in Rats (Supplemental to MRID 48758213), 34350, (A19707A_50032)	870.1100
48996003	4 OF 7	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Acute Inhalation Toxicity in Rats (Supplemental to MRID 48758215), 34352, (A19707A_50033)	870.1300
48996004	5 OF 7	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Primary Eye Irritation in Rabbits (Supplemental to MRID 48758216), 34353, (A19707A_50034)	870.2400
48996005	6 OF 7	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Acute Dermal Toxicity in Rats (Supplemental to MRID 48758214), 34351, (A19707A_50035)	870.1200

48996006

7 OF 7

NOA449280/Mesotrione/Atrazine/S-  
Metolachlor/Benoxacor (A19707A) - Primary  
Skin Irritation in Rabbits (Supplemental to  
MRID 48758217), 34354, (A19707A\_50036)

870.2500

COMPANY OFFICIAL: TAMARA MURPHY  
(NAME)

*Tamara Murphy*  
(SIGNATURE)

COMPANY NAME: SYNGENTA CROP PROTECTION, LLC

COMPANY CONTACT: TAMARA MURPHY  
(NAME)

(336) 632-2409  
(PHONE)



**Tamara Murphy**  
Regulatory Product Manager  
Regulatory Affairs  
Herbicides  
(336) 632-2409 (phone)  
(336) 632-5688 (fax)  
[tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com)

**Syngenta Crop Protection, LLC**  
P.O. Box 18300  
Greensboro, NC 27419-8300  
[www.syngenta.com](http://www.syngenta.com)

**FedEx**

**CONFIDENTIAL BUSINESS INFORMATION ENCLOSED**

**January 30<sup>th</sup>, 2013**

Document Processing Desk (E-SUB)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

**Attn: Ms. Kathryn Montague, PM Team 23, Herbicide Branch  
Registration Division**

**SUBJECT: BICYCLOPYRONE (SYN/NOA449280) - SUBMISSION OF WORD  
DOCUMENTS - AND OECD SUMMARIES (HUMAN TOXICITY)**

- Bicyclopyrone (EPA Reg. No. 100-RUAT)
- Bicyclopyrone Wet Paste Manufacturing Use Product  
(EPA Reg. No. 100-RUAE)
- Bicyclopyrone Wet Paste II Manufacturing Use Product  
(EPA Reg. No. 100-RUAG)
- Bicyclopyrone End Use Product A19707A  
(EPA Reg. No. 100-RUAA)
- Bicyclopyrone End Use Product A16003E  
(EPA Reg. No. 100-RUAL)

Dear Ms. Montague,

As previously agreed with the Agencies (K. Montague, meeting minutes, November 7<sup>th</sup>, 2012), Syngenta respectfully submits the following for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste MUP and Wet Paste II MUP (EPA Reg No. 100-RUAE, 100-RUAG, respectively) end use products A16003E herbicide (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA) to support the Global Joint Review (GJR) evaluation:

- Revised OECD Tier II (MII) Summary documents for OECD Section 3, Human Toxicity (editable WORD format and PDF) and Document C (editable WORD format)
- Copies, in editable WORD format, of the Good Laboratory Practice (GLP) final study reports end use products A16003E (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA)
- Five Completed EPA Application for Pesticide Registration Form 8570-1; one for each technical product and each end use formulation.

E-SUBMISSION





Page 2 of 2 Bicyclopyrone (SYN/NOA449280)  
K. Montague  
January 30<sup>th</sup>, 2013

- Certification with Respect to Citation of Data Form 8570-34; one all-inclusive for the technical products (includes Bicyclopyrone, Bicyclopyrone Wet Paste MUP and Bicyclopyrone Wet Paste II MUP); one for each of the (2) end use formulations (A16003E and A19707A)
- Data Matrices; one all-inclusive for the technical; one for each of the (2) end use formulations (A16003E and A19707A)

Bicyclopyrone is being submitted as part of the GJR process between the US (EPA), Canada (PMRA) and Australia (APVMA). For the majority of the final study reports, the complete original version was produced in WORD and converted to PDF format. For a minority of the final study reports, some Appendices originated in PDF and hence WORD versions of these are not available. With these few noted exceptions, the WORD versions, to the best of Syngenta's knowledge, represent an accurate copy of the data in the PDF version. Syngenta respectfully requests that the Portable Document Format (PDF) of all final study reports submitted in September 2012 remain the primary/official version.

Per agreement with USEPA (K. Montague and front end screen personnel, telecon, December 3, 2012), inclusion of 86-5 front end pages are not necessary for the WORD documents.

#### **Fees for Service**

In compliance with the Pesticide Registration Improvement Act (PRIA II), Syngenta has prepaid the required pesticide registration fee for this action. This action was assigned a PRIA category of R010 (Food Use), at a cost of \$569,221. Since this is an agreed upon follow-up submission under the currently assigned PRIA, no additional fees are necessary at this time. Please email my regulatory assistant Pat Eay at [pat.eay@syngenta.com](mailto:pat.eay@syngenta.com) if you have any questions on this action.

If you have any questions regarding this submission, please contact me at 336-632-2409, fax: 336-632-5688, or email [tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com).

Sincerely,

Tamara Murphy  
Regulatory Product Manager, Herbicides

Enclosures


**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**401 M STREET, S.W.  
WASHINGTON, D.C. 20460**

**Paperwork Reduction Act Notice:** The public reporting burden for this collection of information is estimated to average 1.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the completed form to this address.

**Certification with Respect to Citation of Data**

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-RUAA
Active Ingredient(s) and/or representative test compound(s) Bicyclopyrone/Mesotrione/S-Metolachlor/Atrazine	Date January 30, 2013
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Food Uses	Product Name <b>A19707A (Bicyclopyrone End Use Product)</b>

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

**SECTION I: METHOD OF DATA SUPPORT (Check one method only)**

☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

**SECTION II: GENERAL OFFER TO PAY**

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

**SECTION III: CERTIFICATION**

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 1-30-2013	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
---------------	-------------------	--

EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

# E-SUBMISSION



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number <b>100-RUAA</b>	2. EPA Product Manager <b>Ms. Kathryn Montague</b>	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) <b>A19707A (Bicyclopyrone End Use Product)</b>	PM# <b>PM Team 23</b>	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, LLC P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.).

As previously agreed with the Agencies (K. Montague, meeting minutes, November 7<sup>th</sup>, 2012), Syngenta respectfully submits the following for bicyclopyrone (SYN/NOA449280) (EPA Reg No. 100-RUAT), Bicyclopyrone Wet Paste MUP and Wet Paste II MUP (EPA Reg No. 100-RUAE and 100-RUAG, respectively) end use products A16003E herbicide (EPA Reg No. 100-RUAL) and A19707A herbicide (EPA Reg No. 100-RUAA) to support the Global Joint Review (GJR) evaluation. Submission of Word Documents and OECD Summaries (Human Toxicity).

## Section - III

1. <b>Material This Product Will Be Packaged In:</b>				2. <b>Type of Container</b>	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
*Certification must be submitted		If "Yes" Unit Packaging wgt. No. per Container	If "Yes" Unit Packaging wgt. No. per container		
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container <b>2.5 gal, 120 gal, 220 gal, 330 gal and Bulk</b>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u>			

## Section - IV

1. <b>Contact Point</b> (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name <b>Tamara Murphy</b>		Title <b>Regulatory Product Manager</b>		Telephone No. (Include Area Code) <b>(336) 632-2409</b>	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped)
2. Signature 		3. Title <b>Regulatory Product Manager</b>			
4. Typed Name <b>Tamara Murphy</b>		5. Date <b>1-30-2013</b>			





## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Form Approved OMB No. 2070-0060

401 M Street  
WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 1/28/2013

Reg. No:100-RUAA

Page 1 of 4

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: SYN-A19707

Ingredient: Bicyclopyrone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Section 1	MII 1 - Identity and PhysChem Properties	48758219	SYNGENTA	OWN	
Section 2	MII 2 - Analytical methods	48758220	SYNGENTA	OWN	
Section 3	MII 3 - Toxicity and Metabolism Summary	48758221	SYNGENTA	OWN	
Section 4	MII 4 - Residues and Plant Metabolism Summary	48758222	SYNGENTA	OWN	
Section 5	MII 5 - Efate Behaviour in the Environment Sumamry	48758223	SYNGENTA	OWN	
Section 6	MII 6 - Ecotoxixcity Summary	48758224	SYNGENTA	OWN	
Section 7	MIII 7 - Efficacy Data Summary	48758225	SYNGENTA	OWN	
Cite-All	Cite-All	Cite-All (AHE)	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART)	OUTDOOR RESIDENT	PER	
Cite-All	Cite-All	Cite-All (FES)	FIFRA ENDANGERED	PER	
Cite-All	Cite-All	Cite-All (ORE)	OUTDOOR RESIDENT	PER	

Tamara Murphy, Regulatory Product Manager

Date: 1/28/2013



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 1/28/2013

Reg. No:100-RUAA

Page 2 of 4

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: SYN-A19707

Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Cite-All	Cite-All	Cite-All (SDT)	SPRAY DRIFT TF	PER	
Cite-All	Cite-All	Cite-All (UST)	U.S. TRIAZOLE TASK	PER	
830.1550	Product identity and composition	48758205	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	48758205	SYNGENTA	OWN	
830.1650	Description of Formulation process	48758205	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	48758205	SYNGENTA	OWN	
830.1750	Certified limits	48758205	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758211	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758212	SYNGENTA	OWN	
830.6302	Color	48758206	SYNGENTA	OWN	
830.6303	Physical state	48758206	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 1/28/2013



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 1/28/2013

Reg. No:100-RUAA

Page 3 of 4

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: SYN-A19707

Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6304	Odor	48758206	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	48758208	SYNGENTA	OWN	
830.6315	Flammability	48758207	SYNGENTA	OWN	
830.6316	Explosibility	48758207	SYNGENTA	OWN	
830.7000	pH	48758206	SYNGENTA	OWN	
830.7100	Viscosity	48758206	SYNGENTA	OWN	
830.7300	Density/relative density/bulk density	48758206	SYNGENTA	OWN	
870.1100	Acute oral toxicity	48758213	SYNGENTA	OWN	
870.1100	Acute oral toxicity	48996002	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	48758214	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	48996005	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 1/28/2013



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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WASHINGTON, D.C. 20460

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## DATA MATRIX

Date: 1/28/2013

Reg. No:100-RUAA

Page 4 of 4

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: SYN-A19707

Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1300	Acute inhalation toxicity	48758215	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	48996003	SYNGENTA	OWN	
870.2400	Acute eye irritation	48758216	SYNGENTA	OWN	
870.2400	Acute eye irritation	48996004	SYNGENTA	OWN	
870.2500	Acute dermal irritation	48758217	SYNGENTA	OWN	
870.2500	Acute dermal irritation	48996006	SYNGENTA	OWN	
870.2600	Skin sensitization	48758218	SYNGENTA	OWN	
870.2600	Skin sensitization	48996001	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 1/28/2013

**21-Day Screen Completed by**  
**Contractor**

**21-Day Expires on** 11/8/12

**Jacket #** 100-12444

**MRID#** 487582

**Content Screen:** Recommend to ~~Pass~~/Fail

**11-3 Review:** ~~Pass~~/Fail/NA

**Overall Status:** Recommend to ~~Pass~~/Fail

**Transfer This Jacket to:**

Stephen Schaible

**Script for Rejection Phone calls**

**Contact Name:** Tamara Murphy  
**Phone #:** 336-632-2403  
**Email:** tamara.murphy@syngenta.com

<b><u>First Call/Initials:</u></b>	<b><u>Second Call/Initials:</u></b>
<b>Date:</b> 10/26/12	<b>Date:</b>
<b>Time:</b> 9:10 AM	<b>Time:</b>

This is Jennifer Drobish, EPA contractor.

I'm calling regarding your submission in support of  
SYN-A19707 Herbicide 100-RVA.

**We have found the following deficiencies regarding:**  
**PR Notice 2011-3: Yes or No**  
**Volume/Study Title:**

**Volume/Study Title:**

**Volume/Study Title:**

**Additional volumes continued on back of page: Yes or No**

**Application Package:** Yes or No  
Inerts not approved

**These deficiencies have been approved by EPA.**  
**The corrections can be faxed to 703-305-5060/Attn: \_\_\_\_\_.**

**Second Call/Email:**  
**If we do not receive the corrections by \_\_\_\_\_, we will process your submission, accordingly. Please direct all future calls and correspondence to the appropriate EPA Risk Manager.**





**Applications for Registration 100-RUAA, 100-RUAG and 100-RUAE**

Jennifer Drobish to: tamara.murphy

10/26/2012 09:12 AM

Cc: Sree Nair

From: Jennifer Drobish/DC/USEPA/US  
To: tamara.murphy@syngenta.com  
Cc: Sree Nair/DC/USEPA/US@EPA

Dear Ms. Murphy,

This is Jennifer Drobish, EPA contractor. I'm writing in regards to your submissions in support of the subject applications. We have found the following deficiencies regarding the application packages:

100-RUAA (SYN-A19707 Herbicide)

\*There are inerts on the CSF that are not approved, please see attached Inert Status form



inert.status.100.ruaa.docx

100-RUAG and 100-RUAE (Bicyclopyrone Wet Paste II and Bicyclopyrone Wet Paste)

\*There are inerts on the CSF that are not approved, please see attached Inert Status form



inert.status.100.ruag.ruae.docx

Please note that we have not yet completed the 11-3 review of the studies submitted. If there are deficiencies regarding the 11-3 review I will contact you as soon as the review has been completed.

The inert information can either be faxed to me at 703-305-5060/Attn: Jennifer Drobish or emailed to me at this address. Please feel free to contact me if you have any questions.

Thank you,  
Jennifer Drobish  
Macfadden Contractor  
703-305-1671

# PRIA 2 – 21 Day Content Screen Review Worksheet

(EPA/OPP Use Only)

3/23/09

21 Day Screen Start Date: 10/18/12  
 Experts In-Processing Signature: MP Date 10/19/12 Fee Paid: Yes       
 Division management contacted on issues No      Yes      Date     

EPA Reg. Number: <u>100-AUAA</u>		EPA Receipt Date: <u>10/18/12</u>								
Items for Review				Yes	No	N/A*				
1	<b>Application Form</b> (EPA Form 8570-1)(link to form) signed & complete including package type			X						
2	<b>Confidential Statement of Formula</b> all boxes completed, form signed, and dated (EPA Form 8570-4) (Link to form)			X						
	a) All inerts (link to <a href="http://www.epa.gov/opprd001/inerts/">http://www.epa.gov/opprd001/inerts/</a> ), including fragrances, approved for the proposed uses (see Footnote A) <table style="float: right; border: 1px solid black; margin-top: 5px;"> <tr> <td style="padding: 2px;">yes</td> <td style="padding: 2px;">no</td> </tr> <tr> <td style="text-align: center; padding: 2px;">X</td> <td></td> </tr> </table>			yes	no	X				
yes	no									
X										
3	<b>Certification with Respect to Citation of Data</b> (EPA Form 8570-34) (Link to form) completed and signed (N/A if 100% repack)			X						
	Certificate and data matrix consistent			X						
	If applicant is relying on data that are compensable, is the offer to pay statement included. (see Footnote B) <table style="float: right; border: 1px solid black; margin-top: 5px;"> <tr> <td style="padding: 2px;">yes</td> <td style="padding: 2px;">no</td> </tr> <tr> <td></td> <td></td> </tr> </table>			yes	no					
yes	no									
	If applicable, is there a letter of Authorization for exclusive use only.									
4	<b>Formulator's Exemption Statement</b> (EPA Form 8570-27) (Link to form) completed and signed (N/A if source is unregistered or applicant owns the technical)					X				
5	<b>Data Matrix</b> (EPA Form 8570-35) (Link to form) both internal and external copies (PR 98-5) (Link to PR 98-5) completed and signed (N/A if 100% repack)			X						
	a) Selective Method (Fee category experts use) <table style="float: right; border: 1px solid black; margin-top: 5px;"> <tr> <td style="padding: 2px;">yes</td> <td style="padding: 2px;">no</td> </tr> <tr> <td style="text-align: center; padding: 2px;">X</td> <td></td> </tr> </table>			yes	no	X				
	yes	no								
	X									
b) Cite-All (Fee category experts use)										
c) Applicant owns all data (Fee category experts use)										
6	<b>5 Copies of Label</b> (link to <a href="http://www.epa.gov/oppfead1/labeling/lrm/">http://www.epa.gov/oppfead1/labeling/lrm/</a> ) (Electronic labels on CD are encouraged and guidance is available)( link to <a href="http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels">http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels</a> )			X						



7	Is the data package consistent with PR Notice 86-5 (link to PRN 86-5)	X		
8	Notice of Filing (link to <a href="http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm">http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm</a> ) included with petitions (link to <a href="http://www.epa.gov/pesticides/regulating/tolerances.htm">http://www.epa.gov/pesticides/regulating/tolerances.htm</a> )			X
9	If applicable for conventional applications, reduced risk rationale (link to <a href="http://www.epa.gov/opprd001/workplan/reducedrisk.html">http://www.epa.gov/opprd001/workplan/reducedrisk.html</a> )			X
10	Required Data (link to <a href="http://www.epa.gov/pesticides/regulating/data_requirements.htm">http://www.epa.gov/pesticides/regulating/data_requirements.htm</a> ) and/or data waivers. See Footnote C.			
	a) List study (or studies) not included with application			

Comments: Jacket: Pass ; 11-3 Pass

Inerts approved for food use under to CFE 180.920, pre-harvest application to growing crops. Several inerts were not in the Agency database, registrant provided composition and inerts are now approved - see inert status form in CSF envelope

Passed 11-3 review, MRID 487682

JD 11/1/12

\* N/A - Not Applicable

#### Footnotes

A. During the 21 day initial content review, all CSFs will be reviewed to determine whether all inerts listed, including fragrances, are approved for the proposed uses. If an unapproved inert is identified, the applicant must either 1) resolve the inert issue by, for example, removing the inert, substituting it with an approved inert, submitting documentation that EPA approved the inert for the proposed pesticidal uses, correcting mistakes on the CSF, etc. or 2) provide the data to support OPP approval of the inert or 3) withdraw the application. Removing or substituting an inert ingredient will require a new CSF and may require submission of data. All information, forms, data and documentation resolving the inert issue must have been received by the Agency or the application withdrawn within the 21 day period, otherwise, the Agency will reject the application as described below.

To successfully complete this aspect of the 21 day initial content screen, applicants are **strongly encouraged** to verify that all inert ingredients have been approved for the application's uses **even if a product is currently registered** by consulting the inert Web

site [link to <http://www.epa.gov/opprd001/inerts/lists.html>] and if the inert is not approved, to **obtain the necessary inert approval prior to submitting an application to register a pesticide product containing that inert ingredient.** Some inert ingredients are no longer approved for food uses or certain types of uses. The name and/or CAS number on a CSF must match the name and CAS number on this web site. Simple typographical errors in the name or CAS number have resulted in processing delays.

If an inert is not listed on the inert ingredient web site and the applicant believes that the inert has been approved, the applicant should contact the Inert Ingredient Assessment Branch (IIAB) at [inertsbranch@epa.gov](mailto:inertsbranch@epa.gov) and resolve the issue. Copies of the correspondence with IIAB resolving the issue should accompany the application. All new inerts except PIP inerts are reviewed by IIAB. The IIAB should also be contacted for any questions on what supporting data needs to be submitted for and the Agency's inert review process. Questions on PIP inerts should be directed to the Chief of Microbial Pesticides Branch [Link to [http://www.epa.gov/opbpbpd1/biopesticides/contacts\\_bppd.htm](http://www.epa.gov/opbpbpd1/biopesticides/contacts_bppd.htm)].

When a brand, trade, or proprietary name of an inert ingredient is listed on a CSF, additional information such as an alternate name of the inert, CAS number or other information [link to <http://www.epa.gov/opprd001/inerts/tips.pdf>] must also be included to enable the Agency to determine if it has been approved. Each component of an inert mixture (including a fragrance) must be identified. In some cases, the supplier of the mixture or fragrance may need to provide this information to the Agency. Prior to the Agency's receipt of an application, applicants must arrange with a proprietary mixture or fragrance supplier to provide the component information to the Agency or promptly upon EPA's request. If the inert ingredients in a proprietary blend (including fragrances) cannot or are not identified or provided within the 21-day content review period, the Agency will reject the application.

During the 21 day content review, applicants should submit information to the individual identified by the Agency when the applicant is informed of an unapproved inert.

### **Unapproved Inerts Identified on CSFs**

#### **All applications except conventional new products and PIPs**

Once an unapproved inert is identified on a CSF, the Agency will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If this option is selected and implemented, the Agency may request an extension in the PRIA decision review timeframe to accommodate the inert review/approval process;

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of these options is selected and implemented by the applicant within the 21 day content review period, the Agency will reject the application and retain 25% of the full fee of the category identified.

#### Conventional New Product Applications

When the Registration Division identifies an unapproved inert on a CSF with an application for a new product that the applicant has not identified as requiring an inert approval (R311, R312 or R313), it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert, including any required petition to establish or amend a tolerance or exemption from a tolerance. (This option may change the PRIA category for the application, which could require a longer decision review time and a larger fee. If additional fees are due, they must be received by the Agency within the 21 day content review period.)
3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21-day content-review period, the Agency will reject the application and retain 25% of the appropriate fee for the new product-inert approval category.

#### PIP Applications

When the Biopesticide and Pollution Prevention Division identifies an unapproved inert on a PIP CSF and a request to approve the inert does not accompany the application, it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the spelling or name of the inert to that in 40 CFR 174, or providing documentation that the inert has been approved; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If an inert ingredient tolerance exemption petition is required, the petition must be received by the Agency and the B903 fee paid within the 21 day period. If this option is selected and implemented, the Agency will discuss harmonizing the timeframe for both actions.

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21 day content review period, the Agency will reject the application and retain 25% of the fee.

B. A policy on documentation of offers to pay is still being developed, however, for a me-too or fast track (similar/identical) new product, R300 or A530, an application without the necessary authorizations of offers to pay will be placed into either R301 or A531. The Agency recommends that authorizations of offers to pay be submitted with other PRIA applications to avoid delays in the Agency's decision.

C. Biopesticide applicants are advised to contact the Agency and discuss study waivers prior to submitting their application to the Agency. Documentation of such discussions should be submitted with the study waiver.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

October 18, 2012

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

OPP Decision Number: D-470872  
EPA File Symbol or Registration Number: 100-RUAA  
Product Name: A19707A  
EPA Receipt Date: 09-Oct-2012  
EPA Company Number: 100  
Company Name: SYNGENTA CROP PROTECTION, LLC

BUNNIE KONAT  
SYNGENTA CROP PROTECTION, LLC  
410 SWING ROAD, PO Box 18300  
GREENSBORO, NC 27419-8300

SUBJECT: Receipt of Registration Application Subject to Registration Service Fee

Dear Registrant:

The Office of Pesticide Programs has received your application and certification of payment. If you submitted data with this application, the results of the PRN-2011-3 screen will be communicated separately. During the administrative screen, the Office of Pesticide Programs has determined that this Action is subject to a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act.

The Action has been identified as Action Code: R010.0

NEW AI;FOOD USE;NO FEE: LINKED TO A PRIA APPLICATION;

No additional payment is due at this time.

If you have any questions, please contact the Pesticide Registration Service Fee Ombudsman at (703) 308-9362.

Sincerely,

A handwritten signature in black ink, appearing to read "m. zhe", is written over the word "Sincerely,".

Front End Processing Staff  
Information Technology & Resources Management Division

# Fee for Service

{925296}~

This package includes the following

☒ New Registration

☐ Amendment

☒ Studies? ☐ Fee Waiver?

☐ volpay % Reduction: \_\_\_\_\_

for Division

☐ AD

☐ BPPD

☒ RD

Risk Mgr. 23

Receipt No.

S-

925296

EPA File Symbol/Reg. No.

100-RUAA

Pin-Punch Date:

10/9/2012

☐ This item is NOT subject to FFS action.

## Action Code:

Requested:

R010

Granted:

R010.6

Amount Due: \$ -0-

## Parent/Child Decisions:

100-RUAT

2F8097

100-RUAL

-RUAA

-RUAG

-RUAE

☒ Inert Cleared for Intended Use

☐ Uncleared Inert in Product

Reviewer: *[Signature]*

Date: 10/18/12

Remarks:

E-SUBMISSION

# Fee for Service

{825296H~

This package includes the following

☒ New Registration

☐ Amendment

☒ Studies? ☐ Fee Waiver?

☐ volpay % Reduction: \_\_\_\_\_

for Division

☐ AD

☐ BPPD

☒ RD

Risk Mgr. 23

Receipt No.

S- 825296

EPA File Symbol/Reg. No.

100-RUAA

Pin-Punch Date:

10/9/2012

☐ This item is NOT subject to FFS action.

## Action Code:

Requested:

R010

Granted:

R010.6

Amount Due: \$ -0-

## Parent/Child Decisions:

100-RUAT

2F8097

100-RUAL

-RUAA

-RUAG

-RUAE

☒ Inert Cleared for Intended Use

☐ Uncleared Inert in Product

Reviewer: 

Date: 10/18/12

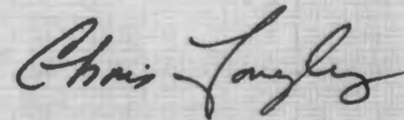
Remarks:

E-SUBMISSION



**syngenta**Bank of America  
New York, NY 10001CHECK NUMBER: 34245423  
64-1278/611Syngenta Crop Protection, LLC  
Greensboro, NC 27409DATE  
09/12/2012AMOUNT  
\*\*\*\*\*569,221.00\*

Pay: FIVE HUNDRED SIXTY-NINE THOUSAND TWO HUNDRED TWENTY-ONE\*\*\*\*\* and 00/100

To the order of: US ENVIRONMENTAL PROTECTION  
AGENCY  
LOCKBOX 9790741005 CONVENTION PL  
SAINT LOUIS MO 63197

VOID After Ninety (90) Days

Company Number: 100  
Bicyclopyrone (NOA 449280)

"34245423"

Please accept this check as settlement for the items listed below, subject to the goods and services supplied and the invoice therefore being correct.

SYNGENTA NUMBER	INVOICE NUMBER	INVOICE DATE	GROSS	DISCOUNT	NET
CROP-19037452	081356922100	08/13/2012	569,221.00	0.00	569,221.00
PA PRIA FEE					
TOTALS:	569,221.00	0.00	569,221.00		

Syngenta Crop Protection, LLC

Company No: 100

Bicyclopyrone NOA 449280

2302233 US ENVIRONMENTAL PROTECTION

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\*Commercial/financial information may be entitled to confidential treatment\*



FedEx

September 12, 2012

U.S. Bank  
Government Lockbox 979074  
1005 Convention Plaza  
SL-MO-C2-GL  
St. Louis, MO 63197

(314) 418-4990

**SUBJECT : PREPAYMENT OF U.S. EPA REGULATORY (PRIA II) FEE**  
**PRIA II CATEGORY R010 / 24 months Decision time / \$569,221**  
**New Active Ingredient: Bicyclopyrone (NOA449280)**

Dear Fee Administrator:

Syngenta Crop Protection, LLC (Company Number 100) is submitting a PRIA II prepayment to the U.S. EPA for a new active ingredient registration, Bicyclopyrone (SYN/NOA449280).

Enclosed is check number 34245423 dated 09/12/2012 in the amount of \$569,221.00 for the PRIA II Fee for Category R010 (New Active Ingredient, Food use) with a 24 month decision time.

Please apply Syngenta's PRIA payment to our application for registration for the new active ingredient, Bicyclopyrone will include the following three technical, Bicyclopyrone Technical (NOA449280), Bicyclopyrone Wet Paste Manufacturing Use Product (NOA449280D) and Bicyclopyrone Wet Paste II Manufacturing Use Product (NOA449280D); two End-Use Formulations: SYN-A16003 Herbicide (A16003E) and SYN-A19707 Herbicide (A19707A); and a tolerance petition/NOF for Corn and import tolerance/NOF for Sugarcane.

If you have any concerns, please contact me at (336) 632-6746, or via email at [pat.eay@syngenta.com](mailto:pat.eay@syngenta.com).

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Pat Eay".

Pat Eay  
Administrative Assistant  
Regulatory Affairs Dept.

P.O. Box 18300  
Greensboro, NC 27419-8300  
USA  
(336) 632-6746

Enclosure

E-SUBMISSION

# Receipt for Section 3

S: 925296

Resubmission: ☐ Yes ☒ No

Regulatory Type: Product Registration - Section 3

Fee For Service: ☒ Yes ☐ No

Application Type: New Registration

Billable: ☒ Yes ☐ No

Company: 100 SYNGENTA CROP PROTECTION, LLC

V

Risk Manager: Registration Division, Risk Management Team 23

Product #: 100-RUAA

Product Name: A19707A

Override#:

Me Too

Me Too

Section3:

Product Name:

Application Date: 28-Sep-2012

ip

OPP Rec'd Date: 09-Oct-2012

ip

Front End Date: 11-Oct-2012

ip

Risk Manager Send Date:

ip

FFS Due Date:

Negotiated Due Date:

OPP Target Date:

Fast Track:

New Ingredient:

Receipt Description:

Associated with e-Submission package 3495. Application for Registration

New Ingredient

Request Date:

New Ingredient

Received Date:

Signature Date:

Form A:

Signature Date:

Form B:

Signature Date:

Print Letter

Enter More Information

Tracking

Receipt Content

Study

CSF

View/Edit

E-SUBMISSION

100



United States  
Environmental Protection Agency  
Washington, DC 20460

☒ Registration  
☐ Amendment  
☐ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number <b>100-xxxx</b>	2. EPA Product Manager <b>Ms. Kathryn Montague</b>	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) <b>SYN-A19707 Herbicide (A19707A)</b>	PM# <b>PM Team 23</b>	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, LLC P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.).

Syngenta Crop Protection, LLC submits a registration for the new end use product, SYN-A19707 Herbicide (EPA Reg. No. 100-xxxx) A19707A and a petition establishing a tolerance/NOF for Bicyclopyrone in or on Corn.

Basic CSF 1466-3 dated 9-6-2012; Alternate CSF 1467-2 and Alternate CSF 1511-2 both dated 9-6-2012.

## Section - III

1. <b>Material This Product Will Be Packaged In:</b>				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	
*Certification must be submitted				<input type="checkbox"/> Plastic	
If "Yes" Unit Packaging wgt. No. per Container		If "Yes" Unit Packaging wgt. No. per container		<input type="checkbox"/> Glass	
				<input type="checkbox"/> Paper	
				<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container <b>2.5 gal, 120 gal, 220 gal, 330 gal and Bulk</b>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u>			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name <b>Tamara Murphy</b>		Title <b>Regulatory Product Manager</b>	
		Telephone No. (Include Area Code) <b>(336) 632-2409</b>	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature 		3. Title <b>Regulatory Product Manager</b>	
4. Typed Name <b>Tamara Murphy</b>		5. Date <b>9-28-2012</b>	



Tamara Murphy  
Regulatory Product Manager  
Regulatory Affairs  
Herbicides  
(336) 632-2409 (phone)  
(336) 632-5688 (fax)  
[tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com)

Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, NC 27419-8300  
[www.syngenta.com](http://www.syngenta.com)

FedEx

CONFIDENTIAL BUSINESS INFORMATION ENCLOSED

September 28<sup>th</sup>, 2012

Document Processing Desk (E-SUB) (APPL) (REG FEE)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

Attn: Ms. Kathryn Montague, PM Team 23, Herbicide Branch  
Registration Division

SUBJECT: BICYCLOPYRONE (NOA/SYN449280) - Application for Registration of a  
New Active Ingredient of Three Technicals:

- Bicyclopyrone (EPA Reg. No. 100-XXXX)
- Bicyclopyrone Wet Paste Manufacturing Use Product  
(EPA Reg. No. 100-XXXX)
- Bicyclopyrone Wet Paste II Manufacturing Use Product  
(EPA Reg. No. 100-XXXX)

Two End-use formulations:

- SYN-A16003 Herbicide (A16003E) (EPA Reg. No. 100-XXXX)
- SYN-A19707 Herbicide (A19707A) (EPA Reg. No. 100-XXXX)

Tolerance Petition and Notice of Filing

- Corn and Import Tolerance for Sugarcane

Dear Ms. Montague,

Syngenta Crop Protection, LLC, respectfully submits an application for registration for the new active ingredient, Bicyclopyrone (NOA/SYN449280). Bicyclopyrone is intended to be used as a herbicide to control broad leaf weeds and annual grasses in corn and sugar cane. However, at this time, we are not requesting registration for use in sugarcane in the U.S; we are requesting the sugarcane use in Australia as part of this joint review. Bicyclopyrone is to be applied from pre-emergence through to early post-emergence and is generally to be applied once annually, however a split application pre-emergent and early post emergent may be used, equating to the maximum recommended application/year. Syngenta requests to establish tolerances in the US in or on corn and an import tolerance in or on sugarcane. The rationale for requesting these tolerances are explained in the tolerance petitions. Two end use formulations, SYN-A16003 (EPA Reg. No. 100-XXXX), a Soluble Concentrate (SL) containing only bicyclopyrone, and SYN-19707 (EPA Reg. No. 100-XXXX), a ZC (mixed formulation of a suspension concentrate (SC) and capsule suspension (CS)), which includes the Syngenta products (bicyclopyrone (EPA Reg. No. 100-XXXX), atrazine (EPA Reg. No. 100-1207), mesotrione, (EPA Reg. No. 100-1150), s-metolachlor (EPA Reg. No. 100-815), and Benoxacor, a safener) are both intended for use on corn in the US.

E-SUBMISSION





Page 2 of 3 - Bicyclopyrone (SYN/NOA449280)  
K. Montague  
September 28<sup>th</sup>, 2012

Bicyclopyrone is being submitted as part of the global joint review (GJR) process between the US (EPA), Canada (PMRA) and Australia (AVPMA). Additionally, because of the OECD global dossier submission, the transmittal document is structured according to the OECD format. In order to facilitate the front end screening of guideline studies, Syngenta has prepared the data matrix by grouping the guideline numbers and their accompanying MRID numbers. Syngenta has also provided with this submission a Reviewer's Aid which lists all of the documents by their various document identifiers (i.e. OECD Data Point, Document Title, Company Report Number, Study Report Number, EPA MRID Number and CADDY Document ID).

As previously agreed by USEPA, PMRA, AVPMA and Syngenta, Syngenta respectfully submits OECD Robust Summaries (IUCLID Study Summaries) for each study report, as a pilot project. These summaries will complement the higher tier OECD MII and MIII section summaries. The IUCLID summaries are provided in MS Word and/or .iz5 file format (as structured data). Per agreement from both USEPA and PMRA (K. Montague, meeting minutes, June 26, 2012, see Attachment 1), inclusion of 86-5 front end pages are not necessary for the IUCLID Summaries.

Also as agreed with the Agencies (K. Montague, telecon minutes, July 24, 2012, see Attachment 2), Syngenta submits with this dossier a placeholder reference (see Document N) confirming that a developmental neurotoxicity (DNT) study waiver request with supporting data will be submitted by mid-December 2012.

#### **Fees for Service**

In compliance with the Pesticide Registration Improvement Act (PRIA II), Syngenta has prepaid the required pesticide registration fee for this action. Syngenta believes that this submission fits PRIA category R010 (Food Use), at a cost of \$569,221. A copy of the payment confirmation is included with this submission. Kindly email my regulatory assistant Pat Eay at [pat.eay@syngenta.com](mailto:pat.eay@syngenta.com) if you have any questions.

Enclosed in support of this submission are the following electronic documents in E-prism format on the enclosed DVD:

- Transmittal Documents
- Data Volumes
- Electronic label versions for the three technical active ingredients and two end use formulations.
- Completed EPA Application for Pesticide Registration Form 8570-1- one for each of the three technical products and one for each of the (2) end use formulations  
Atrazine (EPA Reg. No. 100-1207); Mesotrione (EPA Reg. No. 100-1150); s-metolachlor (EPA Reg. No. 100-815) and the safener, Benoxacor.



Page 3 of 3 Bicyclopyrone (SYN/NOA449280)  
K. Montague  
September 28<sup>th</sup>, 2012

- Certification with Respect to Citation of Data Form 8570-34; one all-inclusive for the technical products (includes Bicyclopyrone, Bicyclopyrone Wet Paste and Bicyclopyrone Wet Paste II); one for each of the (2) end use formulations (SYN-A16003 and SYN-19707) and one each for the Syngenta registered herbicides.
- Data Matrices; one all-inclusive for the technical; one for each of the (2) end use formulations (SYN-A16003 and SYN-19707) and one each for the Syngenta registered herbicides Atrazine (EPA Reg. No. 100-1207); Mesotrione (EPA Reg. No. 100-1150); s-metolachlor (EPA Reg. No. 100-815) and the safener, Benoxacor.
- Confidential Statement of Formula: Bicyclopyrone Technical  
(CSF No. 1382/1, 1480/1, 1494/1)
- Confidential Statement of Formula: Bicyclopyrone Wet Paste MUP  
(CSF No. 1427/1)
- Confidential Statement of Formula: Bicyclopyrone Wet Paste II MUP  
(CSF No. 1509/1)
- Confidential Statement of Formula: SYN-A16003  
(CSF No. 1468/1, 1469/1, 1510/1)
- Confidential Statement of Formula: SYN-A19707  
(CSF No. 1466/3, 1467/2, 1511/2)
- Copy of Australian label for SYN-A16003 Herbicide to support the request for an import tolerance for sugarcane (see Document C\_A16003E).
- Tolerance Petitions: one for corn and one for sugarcane.
- Notice of Filing: one for corn and one for sugarcane (both PDF and word).
- Copy of check #34245423 and letter sent via FedEx for PRIA payment of \$569, 221
- Reviewer's Aid
- Attachment 1 - Bicyclopyrone Joint EPA/PMRA Meeting Minutes: June 26, 2012
- Attachment 2 - Bicyclopyrone Joint EPA/PMRA Telecon Minutes: July 24, 2012

If you have any questions regarding this submission, please contact me at 336-632-2409, fax: 336-632-5688, or email [tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com) or Pat Eay at 336-632-6746.

Sincerely,

Tamara Murphy  
Regulatory Product Manager, Herbicides

Enclosures

Bicyclopyrone (SYN449280)  
Global Joint Review Project  
Joint EPA/PMRA Meeting  
Dossier Preparation Update  
June 26, 2012

Attendees:

<b>EPA</b>	<b>PMRA</b>
Teresa Downs Emily Hartman Geri McCann Kathryn Montague Grant Rowland Bob Schultz Michael Walsh Michael Yanchulis	Joseph Mikhael Minoli Silva Patricia Murray
<b>Syngenta</b>	
Carl Brooks Kimberly Clark Tom Hanley Tammy Murphy Jerry Wells Sandra Whicker	Cindy LaJoie Tanya Tocheva

### Introduction

A Global Joint Review (GJR) meeting was held on Tuesday June 26, 2012 between US EPA, CA PMRA and Syngenta Crop Protection. T. Murphy opened the meeting with a brief synopsis of the meeting objectives- to update the Agencies (since the previous GJR meeting in January 2010) on the dossier preparation for bicyclopyrone (SYN/NOA449280) and seek feedback on the discussion points identified by Syngenta in the pre-meeting slide set (Attachment 1). Also, prior to the meeting Syngenta provided additional data to the Agencies 1) minutes from the previous GJR meeting on January 2010, 2) an example of a proposed transmittal document for the bicyclopyrone submission (Attachments 2 and 3, respectively).

### Meeting Discussion

#### Previously Agreed Points

Both PMRA and USEPA confirmed that they do not want to receive each other's administration forms and the list of forms for each Agency is complete.



## IUCLID Summaries

C Brooks, Syngenta, led the technical discussions. Syngenta proposed in order to avoid replication in the higher tier summaries, that basic study details provided in the IUCLID Study Summaries will not be repeated in MII and Section Summaries

- **PMRA comment:** Concerns were expressed that the IUCLID Summaries would increase the Agency workload (i.e. additional summary document for review) and the key information in the IUCLID would not be carried over to the MII and documents. PMRA would prefer to just have MII/ Summaries. MII/ Summaries are very robust summaries and the PMRA evaluators are encouraged to use these for their review. PMRA indicated that from a document management point that the evaluators will work with what we submit, but they could possibly pick one summary document to use for assessments and review. The PMRA commented that they rely on MII/ documents for their assessment and would prefer Word Format so they can cut and paste to prepare their evaluation report. PMRA and USEPA need to have a better understanding of the content/details/format in IUCLID Summaries and how they compare to the MII/ Summaries. Also, the Agencies would like to see an example of an IUCLID summary, in comparison to a MII/ document. They specifically would like for Syngenta to look at a DER (Data Evaluation Record) from the Sedaxane submission and compare it to an IUCLID summary and see if all the information needed to complete the DER is in fact included in the IUCLID Summary.
- **Syngenta Response:** Syngenta proposed to submit to the Agencies an example of an IUCLID Summary and MII/ documents. Also, that a second meeting (telecom) will be scheduled with the Agencies to discuss the MII/ versus IUCLID summary content. Syngenta will compare a recent DER to an IUCLID Summary for information.

PMRA indicated that Syngenta should not provide PDF renditions if the MS Word format is provided for IUCLID Summaries and MII, Summaries. Syngenta agreed to PMRA's request.

- **EPA comments:** EPA indicated that they will accept both MS Word and PDF versions of IUCLID Summaries and MII, Summaries.
- **Syngenta Response:** Syngenta agreed to provide EPA with both MS Word versions and PDF renditions.

Both USEPA and PMRA agreed that inclusions of 86-5 front end pages are not necessary for IUCLID Summaries.

EPA confirmed that IUCLID Summaries should be assigned the same MRID as the Study Report which is being summarized.

Syngenta proposed not to include IUCLID Study Summary .i5z data files as an integrated component of the E-Prism, E-Index or Caddy xml submissions, but to zip all .i5z data files together into a separate file per submission. PMRA indicated that they are not able to accept the .i5z files at this time; it is a hope for the future as it will be of significant value to efficiency at

the agency but it will involve significant programming and investment. PMRA does not wish to receive the .i5z files.

- **EPA comment:** Bob Schultz requested the .i5z data files be placed on a separate CD for submission and addressed directly to him. Syngenta agreed to this request.

In cases where IUCLID Summaries do not match one to one with the respective study reports, Syngenta proposed the following:

- a. Multiple Study Reports to one IUCLID Study Summary:
  - Syngenta to assign the IUCLID Summary with MRID of the first Study Report in the series.
- b. One Study Report to multiple IUCLID Study Summaries:
  - Syngenta to merge the IUCLID Summaries to create a single summary and then assign the merged Summary the same MRID as the respective Study Report.

EPA and PMRA agreed to the above proposal.

PMRA requested the IUCLID files be submitted under the correct DACO/OECD number. Syngenta responded that IUCLID files will be submitted under the OECD number.

- **PMRA comment:** PMRA asked if the final study reports will be submitted in PDF format. They would prefer to receive them in Word format.
- **Syngenta response:** Final reports will be provided in PDF format.

Both USEPA and PMRA were agreeable with the proposed scenarios.

T. Murphy concluded the meeting and asked if there were any further questions. The Agencies were thanked for the opportunity to further discuss the dossier preparation of bicyclopyrone and that the feedback/advice received was extremely helpful in assisting Syngenta with a plan forward. The meeting was adjourned.

Bicyclopyrone (SYN449280)  
Global Joint Review Project  
USEPA/PMRA Telecom  
July 24, 2012

## Attendees:

<b>EPA</b>	<b>PMRA</b>
Grant Rowland Kathryn Montague Michael Walsh	Patricia Murray Minoli Silva
<b>Syngenta</b>	
Jean Costello Cindy Lajoie Tammy Murphy Tanya Tocheva Jerry Wells	

### Introduction

A telecom was held on Tuesday July 24, 2012 between US EPA, PMRA Canada and Syngenta to discuss the Global Joint Review (GJR) submission of Syngenta's experimental herbicide, bicyclopyrone (SYN/NOA449280). The objective was to follow-up from a previous meeting (June 26, 2012) discussion for the proposed submission timeline of the developmental neurotoxicity (DNT) waiver request.

### Telecom Discussion

T. Murphy, Syngenta, opened the telecom with a brief overview. From a previous meeting (June 26, 2012), the possibility of Syngenta submitting a waiver request for a DNT study for bicyclopyrone was discussed. Syngenta has decided to proceed with submission of a waiver request. The scheduled submission timeline for the dossier package is September 28, 2012. In order to produce a robust DNT waiver request and complete the supporting studies, Syngenta proposed submission of the DNT waiver request and supporting data in mid-December 2012, post the core dossier submission.

**EPA Comments:** EPA raised concerns on the timing of the DNT waiver request and pointed out that Syngenta should consider the implications if the waiver request was not approved and the DNT study is required.

**Syngenta Response:** Syngenta asked how the timeline process for a waiver request would be managed for a joint evaluation.

**Agency Comments:** EPA indicated that the Agencies would strive to agree to a harmonized view on the waiver request decision. The waiver request will be assessed by the GJR team during the primary and secondary review process. The secondary

review would include the science branches (i.e., HED) for comments and recommendations. PMRA also commented that AU would not grant a registration with conditions.

**Syngenta Response:** Syngenta asked for confirmation that it would be reasonable to expect a waiver decision approximately 12 months post the core dossier submission. The Agencies confirmed that a decision on the acceptability of the waiver request will not be made until a full review is completed (i.e. after the primary and secondary review process).

**PMRA comment:** PMRA commented that the completeness check for the dossier submission would be complete by the end of October 2012. A waiver submission in mid-December will be 2 months into the primary review. Therefore, this will be captured in the Project Plan and the plan will be amended accordingly. EPA agreed with this assessment. It was noted that if additional information is received later than targeted, a longer review time may need to be negotiated.

Syngenta proposed a placeholder document be submitted with the dossier on September 28, 2012, confirming that a DNT waiver request with supporting data would be submitted mid-December 2012.

**EPA and PMRA Comments:** EPA agreed with this approach and asked that the placeholder include the estimated submission date for the DNT waiver request. Syngenta agreed with this request.

## Conclusions

T. Murphy concluded the telecom and asked if there were any further questions or comments. The Agencies were thanked for the opportunity to discuss Syngenta's approach with respect to the submission timeline of the DNT waiver request. The telecom was adjourned.

**VOLUME 1 OF 25 OF SUBMISSION  
(TRANSMITTAL DOCUMENT)**

**1. Name and Address of Submitter**

Syngenta Crop Protection, LLC  
P.O. Box 18300  
Greensboro, NC 27419

**2. Regulatory Action in Support of which this Package is Submitted**

BICYCLOPYRONE (SYN/NOA449280)-Application for Registration of a New Active Ingredient of Three Technicals: Bicyclopyrone (EPA Reg No. 100-XXXX), Bicyclopyrone Wet Paste Manufacturing Use Product (EPA Reg No. 100-XXXX), Bicyclopyrone Wet Paste II Manufacturing Use Product (EPA Reg No. 100-XXXX); Two End-use formulations: SYN-A16003 Herbicide (A16003E) (EPA Reg No. 100-XXXX) and SYN-A19707 Herbicide (A19707A) (EPA Reg No. 100-XXXX) and Tolerance Petitions and Notice of Filings for Corn and Sugarcane (Import Tolerance)

**3. Transmittal Date**

09/28/2012

**4. List of Submitted Studies**

MRID NUMBER	VOLUME NUMBER	STUDY TITLE	EPA GUIDELINE NUMBER
48758200	1 OF 25	Transmittal Document	N/A
Admin	2 OF 25	A19707A - Document C - Existing or proposed Labels, A19707A_10000, (A19707A_10000)	Not Applicable
Admin	3 OF 25	A19707A - Document D1 - Supported Uses, A19707A_10001, (A19707A_10001)	Not Applicable
Admin	4 OF 25	A19707A - Document G - Statement on the Regulatory, A19707A_10002, (A19707A_10002)	Not Applicable
Admin	5 OF 25	A19707A - Document H - Safety Data Sheets, A19707A_10003, (A19707A_10003)	Not Applicable
48758205	6 OF 25	A19707A - Document J - Confidential Information, A19707A_10004, (A19707A_10004)	830.1550 830.1600 830.1650 830.1670 830.1750
48758206	7 OF 25	A19707A - Color, Odor, Physical State, pH, Density and Viscosity, TK0114448, (A19707A_50004)	830.6302 830.6303 830.6304 830.7000 830.7100

			830.7300
48758207	8 OF 25	A19707A - Safety study, HT12/519, (A19707A_10011)	830.6315 830.6316
48758208	9 OF 25	A19707A - Oxidation/reduction: Chemical incompatibility, HT12/520, (A19707A_10012)	830.6314
48758211	10 OF 25	Analytical Method SF-552/2 - Determination of CGA77102, G30027, NOA449280, ZA1296 and CGA154281 in A19707A, SF-552/2, (A19707A_50008)	830.1800
48758212	11 OF 25	A19707A - Validation of Analytical Method SF-552/1, SF-552/1, (A19707A_50006)	830.1800
48758213	12 OF 25	NOA449280/Mesotrione/Atrazine/S-Metolachlor/Benoxacor (A19707A) - Acute Oral Toxicity Up-and-Down Procedure in Rats, 34350, (A19707A_10017)	870.1100
48758214	13 OF 25	Mesotrione/Atrazine/S-Metolachlor/Bicyclopyrone/Benoxacor ZC (A19707A) - Acute dermal toxicity in rats, 34351, (A19707A_10015)	870.1200
48758215	14 OF 25	Mesotrione/Atrazine/S-Metolachlor/Bicyclopyrone/Benoxacor ZC (A19707A) - Acute inhalation toxicity in rats, 34352, (A19707A_10016)	870.1300
48758216	15 OF 25	Mesotrione/Atrazine/S-Metolachlor/Bicyclopyrone/Benoxacor ZC (A19707A) - Primary eye irritation study in rabbits, 34353, (A19707A_10019)	870.2400
48758217	16 OF 25	Mesotrione/Atrazine/S-Metolachlor/Bicyclopyrone/Benoxacor ZC (A19707A) - Primary skin irritation in rabbits, 34354, (A19707A_10020)	870.2500
48758218	17 OF 25	Mesotrione/Atrazine/S-Metolachlor/Bicyclopyrone/Benoxacor ZC (A19707A) - Local Lymph Node Assay (LLNA) in mice, 34355, (A19707A_10018)	870.2600
48758219	18 OF 25	A19707A - Document MIII Section 1- Identity and PhysChem Properties, A19707A_10005, (A19707A_10005)	Not Applicable
48758220	19 OF 25	A19707A - Document MIII Section 2 - Analytical Methods, A19707A_10006, (A19707A_10006)	Not Applicable
48758221	20 OF 25	A19707A - Document MIII Section 3 - Toxicity and Metabolism Summary, A19707A_10007, (A19707A_10007)	Not Applicable
48758222	21 OF 25	A19707A - Document MIII Section 4 - Residues and Plant Metabolism Summary, A19707A_10008, (A19707A_10008)	Not Applicable
48758223	22 OF 25	A19707A - Document MIII Section 5 - Efate_Behaviour in the Environment Summary, A19707A_10009, (A19707A_10009)	Not Applicable

48758224	23 OF 25	A19707A - Document MIII Section 6 - Ecotoxicity Summary, A19707A_10010, (A19707A_10010)	Not Applicable
48758225	24 OF 25	A19707A - Document MIII Section 7 - Efficacy Data Summary, A19707A_10014, (A19707A_10014)	Not Applicable
Admin	25 OF 25	A19707A - GJR - Document O Part4, A19707A_10013, (A19707A_10013)	Not Applicable

COMPANY OFFICIAL: TAMARA MURPHY  
(NAME)

*Tamara Murphy*  
(SIGNATURE)

COMPANY NAME: SYNGENTA CROP PROTECTION, LLC

COMPANY CONTACT: TAMARA MURPHY  
(NAME)

(336) 632-2409  
(PHONE)



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## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-xxxx
Active Ingredient(s) and/or representative test compound(s) Bicyclopyrone	Date September 28, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Food Uses	Product Name Bicyclopyrone Technical (NOA449280)

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

## SECTION I: METHOD OF DATA SUPPORT (Check one method only)

☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

## SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 9-28-2012	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
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EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

E-SUBMISSION





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## DATA MATRIX

Date: 9/28/2012		Reg. No:100-XXXX		Page 1 of 3	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: SYN-A19707			
Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Section 1	MII 1 - Identity and PhysChem Properties	48758219	SYNGENTA	OWN	
Section 2	MII 2 - Analytical methods	48758220	SYNGENTA	OWN	
Section 3	MII 3 - Toxicity and Metabolism Summary	48758221	SYNGENTA	OWN	
Section 4	MII 4 - Residues and Plant Metabolism Summary	48758222	SYNGENTA	OWN	
Section 5	MII 5 - Efate Behaviour in the Environment Sumamry	48758223	SYNGENTA	OWN	
Section 6	MII 6 - Ecotoxixcity Summary	48758224	SYNGENTA	OWN	
Section 7	MIII 7 - Efficacy Data Summary	48758225	SYNGENTA	OWN	
830.1550	Product identity and composition	48758205	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	48758205	SYNGENTA	OWN	
830.1650	Description of Formulation process	48758205	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	48758205	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012

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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-XXXX

Page 2 of 3

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: SYN-A19707

Ingredient: Bicyclopryone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1750	Certified limits	48758205	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758211	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48758212	SYNGENTA	OWN	
830.6302	Color	48758206	SYNGENTA	OWN	
830.6303	Physical state	48758206	SYNGENTA	OWN	
830.6304	Odor	48758206	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	48758208	SYNGENTA	OWN	
830.6315	Flammability	48758207	SYNGENTA	OWN	
830.6316	Explodability	48758207	SYNGENTA	OWN	
830.7000	pH	48758206	SYNGENTA	OWN	
830.7100	Viscosity	48758206	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012		Reg. No:100-XXXX		Page 3 of 3	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: SYN-A19707			
Ingredient: Bicyclopyrone, S-Metolachlor, Atrazine, Mesotrione, Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.7300	Density/relative density/bulk density	48758206	SYNGENTA	OWN	
870.1100	Acute oral toxicity	48758213	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	48758214	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	48758215	SYNGENTA	OWN	
870.2400	Acute eye irritation	48758216	SYNGENTA	OWN	
870.2500	Acute dermal irritation	48758217	SYNGENTA	OWN	
870.2600	Skin sensitization	48758218	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-1140
Active Ingredient(s) and/or representative test compound(s) Mesotrione	Date September 28, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Uses	Product Name Mesotrione Technical

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

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☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

## SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 9-28-2012	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
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EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

E-SUBMISSION



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Form Approved OMB No. 2070-0060

401 M Street  
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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-1140

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Cite-All	Cite-All	Cite-All (AHE	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (FES	FIFRA ENDANGERED	PER	
Cite-All	Cite-All	Cite-All (ORE	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (REJ	RESIDENTIAL EXPOS	PER	
Cite-All	Cite-All	Cite-All (SDT	SPRAY DRIFT TF	PER	
Cite-All	Cite-All	Cite-All (Syng	SYNGENTA	OWN	
830.0000	Product identity and composition	44373501	SYNGENTA	OWN	
830.0000	Product identity and composition	44373503	SYNGENTA	OWN	
830.0000	Product identity and composition	44373504	SYNGENTA	OWN	
830.0000	Product identity and composition	44505004	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.0000	Product identity and composition	45522101	SYNGENTA	OWN	
830.0000	Product identity and composition	45525910	SYNGENTA	OWN	
830.0000	Product identity and composition	45525910	SYNGENTA	OWN	
830.0000	Product identity and composition	45588101	SYNGENTA	OWN	
830.0000	Product identity and composition	45588101	SYNGENTA	OWN	
830.0000	Product identity and composition	45588104	SYNGENTA	OWN	
830.1550	Product identity and composition	45522101	SYNGENTA	OWN	
830.1550	Product identity and composition	45525909	SYNGENTA	OWN	
830.1550	Product identity and composition	45525909	SYNGENTA	OWN	
830.1550	Product identity and composition	45588104	SYNGENTA	OWN	
830.1550	Product identity and composition	46016101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1550	Product identity and composition	46084901	SYNGENTA	OWN	
830.1550	Product identity and composition	48730801	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	44394201	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	44505003	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	45522101	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	45525909	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	45525909	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	45588104	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	46084901	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	48730801	SYNGENTA	OWN	
830.1620	Description of production process	44394201	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: MESOTRIONE TECHNICAL			
Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1620	Description of production process	44505003	SYNGENTA	OWN	
830.1620	Description of production process	45522101	SYNGENTA	OWN	
830.1620	Description of production process	45525909	SYNGENTA	OWN	
830.1620	Description of production process	45525909	SYNGENTA	OWN	
830.1620	Description of production process	45588104	SYNGENTA	OWN	
830.1620	Description of production process	46084901	SYNGENTA	OWN	
830.1620	Description of production process	47280001	SYNGENTA	OWN	
830.1620	Description of production process	48730801	SYNGENTA	OWN	
830.1650	Description of Formulation process	44394201	SYNGENTA	OWN	
830.1650	Description of Formulation process	44505003	SYNGENTA	OWN	
830.1650	Description of Formulation process	45522101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012





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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1650	Description of Formulation process	45525909	SYNGENTA	OWN	
830.1650	Description of Formulation process	45525909	SYNGENTA	OWN	
830.1650	Description of Formulation process	45588104	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	44394201	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	44505003	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	45525909	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	45525909	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	45588104	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	46084901	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	47280001	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	48730801	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1700	Preliminary analysis	46084901	SYNGENTA	OWN	
830.1700	Preliminary analysis	47280001	SYNGENTA	OWN	
830.1700	Preliminary analysis	48730801	SYNGENTA	OWN	
830.1750	Certified limits	45522101	SYNGENTA	OWN	
830.1750	Certified limits	45525909	SYNGENTA	OWN	
830.1750	Certified limits	45525909	SYNGENTA	OWN	
830.1750	Certified limits	45588104	SYNGENTA	OWN	
830.1750	Certified limits	45588104	SYNGENTA	OWN	
830.1750	Certified limits	46084901	SYNGENTA	OWN	
830.1750	Certified limits	48730801	SYNGENTA	OWN	
830.1800	Enforcement analytical method	44373502	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1800	Enforcement analytical method	44505107	SYNGENTA	OWN	
830.1800	Enforcement analytical method	45522101	SYNGENTA	OWN	
830.1800	Enforcement analytical method	45525909	SYNGENTA	OWN	
830.1800	Enforcement analytical method	45525909	SYNGENTA	OWN	
830.1800	Enforcement analytical method	45588104	SYNGENTA	OWN	
830.1800	Enforcement analytical method	45588104	SYNGENTA	OWN	
830.1800	Enforcement analytical method	46084901	SYNGENTA	OWN	
830.1800	Enforcement analytical method	47280001	SYNGENTA	OWN	
830.1800	Enforcement analytical method	48730801	SYNGENTA	OWN	
830.6302	Color	45525910	SYNGENTA	OWN	
830.6302	Color	45525910	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6302	Color	45588101	SYNGENTA	OWN	
830.6303	Physical state	45525910	SYNGENTA	OWN	
830.6303	Physical state	45525910	SYNGENTA	OWN	
830.6303	Physical state	45588101	SYNGENTA	OWN	
830.6304	Odor	45525910	SYNGENTA	OWN	
830.6304	Odor	45525910	SYNGENTA	OWN	
830.6304	Odor	45588101	SYNGENTA	OWN	
830.6313	Stability to normal and elevated temperatures, metals,	44373505	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	45525910	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	45525910	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	45588101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6315	Flammability	45525910	SYNGENTA	OWN	
830.6315	Flammability	45525910	SYNGENTA	OWN	
830.6315	Flammability	45588101	SYNGENTA	OWN	
830.6316	Explosability	45525910	SYNGENTA	OWN	
830.6316	Explosability	45525910	SYNGENTA	OWN	
830.6316	Explosability	45588101	SYNGENTA	OWN	
830.6317	Storage Stability	44373504	SYNGENTA	OWN	
830.6317	Storage Stability	45525910	SYNGENTA	OWN	
830.6317	Storage Stability	45525910	SYNGENTA	OWN	
830.6317	Storage Stability	45588101	SYNGENTA	OWN	
830.6317	Storage Stability	45588101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6317	Storage Stability	45588101	SYNGENTA	OWN	
830.6317	Storage Stability	46039701	SYNGENTA	OWN	
830.6317	Storage Stability	46039701	SYNGENTA	OWN	
830.6317	Storage Stability	46039701	SYNGENTA	OWN	
830.6317	Storage Stability	46057501	SYNGENTA	OWN	
830.6319	Miscibility	45525910	SYNGENTA	OWN	
830.6319	Miscibility	45525910	SYNGENTA	OWN	
830.6319	Miscibility	45588101	SYNGENTA	OWN	
830.6320	Corrosion characteristics	45525910	SYNGENTA	OWN	
830.6320	Corrosion characteristics	45525910	SYNGENTA	OWN	
830.6320	Corrosion characteristics	45588101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6320	Corrosion characteristics	46039701	SYNGENTA	OWN	
830.6320	Corrosion characteristics	46039701	SYNGENTA	OWN	
830.6320	Corrosion characteristics	46039701	SYNGENTA	OWN	
830.6320	Corrosion characteristics	46057501	SYNGENTA	OWN	
830.6321	Dielectric breakdown voltage	45588101	SYNGENTA	OWN	
830.7000	pH	45588101	SYNGENTA	OWN	
830.7100	Viscosity	45588101	SYNGENTA	OWN	
830.7300	Density/relative density/bulk density	45588101	SYNGENTA	OWN	
870 Series	Health Effects Tests	45525907	SYNGENTA	OWN	
870 Series	Health Effects Tests	45588102	SYNGENTA	OWN	
870 Series	Health Effects Tests	45588103	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1100	Acute oral toxicity	44373512	SYNGENTA	OWN	
870.1100	Acute oral toxicity	44373513	SYNGENTA	OWN	
870.1100	Acute oral toxicity	45470301	SYNGENTA	OWN	
870.1100	Acute oral toxicity	45525901	SYNGENTA	OWN	
870.1100	Acute oral toxicity	45525901	SYNGENTA	OWN	
870.1100	Acute oral toxicity	45588105	SYNGENTA	OWN	
870.1100	Acute oral toxicity	45588105	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	44373514	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	44373515	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	45470302	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	45525902	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1200	Acute dermal toxicity	45525902	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	45594001	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	45594001	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	44373516	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	44373517	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	45470303	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	45525903	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	45525903	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	45588106	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	45588106	SYNGENTA	OWN	
870.2400	Acute eye irritation	44373518	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.2400	Acute eye irritation	44373519	SYNGENTA	OWN	
870.2400	Acute eye irritation	45470304	SYNGENTA	OWN	
870.2400	Acute eye irritation	45525904	SYNGENTA	OWN	
870.2400	Acute eye irritation	45525904	SYNGENTA	OWN	
870.2400	Acute eye irritation	45594002	SYNGENTA	OWN	
870.2400	Acute eye irritation	45594002	SYNGENTA	OWN	
870.2400	Acute eye irritation	45651806	SYNGENTA	OWN	
870.2500	Acute dermal irritation	44373520	SYNGENTA	OWN	
870.2500	Acute dermal irritation	44373521	SYNGENTA	OWN	
870.2500	Acute dermal irritation	45470305	SYNGENTA	OWN	
870.2500	Acute dermal irritation	45525905	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.2500	Acute dermal irritation	45525905	SYNGENTA	OWN	
870.2500	Acute dermal irritation	45594003	SYNGENTA	OWN	
870.2500	Acute dermal irritation	45594003	SYNGENTA	OWN	
870.2600	Skin sensitization	44373522	SYNGENTA	OWN	
870.2600	Skin sensitization	44373523	SYNGENTA	OWN	
870.2600	Skin sensitization	45470306	SYNGENTA	OWN	
870.2600	Skin sensitization	45525906	SYNGENTA	OWN	
870.2600	Skin sensitization	45525906	SYNGENTA	OWN	
870.2600	Skin sensitization	45594004	SYNGENTA	OWN	
870.2600	Skin sensitization	45594004	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505019	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3100	90-Day oral toxicity	44505020	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505021	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505022	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505023	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505029	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505111	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44505116	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44537103	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44537106	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44537107	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44901706	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505019	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505020	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505021	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505022	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505023	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505029	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505111	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44505116	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44537103	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44537106	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44537107	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3150	Subchronic nonrodent oral toxicity - 90-day	44901706	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	44505024	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	45651804	SYNGENTA	OWN	
870.3465	90-Day inhalation toxicity	46562908	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44505030	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44505031	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44505032	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44901707	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44901708	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44920801	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44920802	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3700	Prenatal developmental toxicity study	45651808	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	45651818	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	44505033	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	44505034	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	44505112	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	45651805	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	45651810	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	47244501	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	47244502	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	47244504	SYNGENTA	OWN	
870.4100	Chronic toxicity	44505026	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4100	Chronic toxicity	44505027	SYNGENTA	OWN	
870.4100	Chronic toxicity	44505035	SYNGENTA	OWN	
870.4100	Chronic toxicity	44505036	SYNGENTA	OWN	
870.4200	Carcinogenicity	44505028	SYNGENTA	OWN	
870.4200	Carcinogenicity	44505029	SYNGENTA	OWN	
870.4200	Carcinogenicity	44505035	SYNGENTA	OWN	
870.4200	Carcinogenicity	44505036	SYNGENTA	OWN	
870.4300	Combined chronic toxicity/carcinogenicity	44505029	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44373524	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44373525	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44373526	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.5000	Genetic Toxicity tests	44373527	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44505037	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44505038	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	45216101	SYNGENTA	OWN	
870.6100	Acute and 28-day delayed neurotoxicity of organopho	45651812	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505017	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505018	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505025	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505026	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505027	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44505035	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.6200	Neurotoxicity screening battery	44505036	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46553501	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610401	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610402	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610403	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610404	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610405	SYNGENTA	OWN	
870.6300	Developmental neurotoxicity study	46610406	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44505101	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44505102	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44505103	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419	Product: MESOTRIONE TECHNICAL
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Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7485	Metabolism and pharmacokinetics	44505104	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44505105	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44505106	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44537101	SYNGENTA	OWN	
870.7600	Dermal penetration	46951721	SYNGENTA	OWN	
870.7600	Dermal penetration	46951722	SYNGENTA	OWN	
870.7600	Dermal penetration	46951723	SYNGENTA	OWN	
870.7800	Immunotoxicity	48748301	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	46562902	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	46562903	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	47093501	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	46562904	SYNGENTA	OWN	
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	46562905	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	44505119	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	44901713	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	44505119	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	44901713	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	46562902	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	46562903	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	47093501	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	44505119	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	44901713	SYNGENTA	OWN	

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Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4250	Vegetative vigor, Tier 2	46562904	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	46562905	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44505120	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44505121	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44505122	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44505123	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44505124	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44901709	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44901710	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	46562906	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	46562907	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.5400	Algal toxicity, Tiers 1 and 2	44505120	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44505121	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44505122	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44505123	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44505124	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44901709	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44901710	SYNGENTA	OWN	
875.2100	Foliar dislodgeable residue dissipation	47172301	SYNGENTA	OWN	
875.2100	Foliar dislodgeable residue dissipation	47190101	SYNGENTA	OWN	
143-1	Nontarget insect testing -- predators and parasites	44505013	SYNGENTA	OWN	
143-1	Nontarget insect testing -- predators and parasites	44505014	SYNGENTA	OWN	

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Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.3020	Honey bee acute contact toxicity	44373528	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	44373529	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	44537108	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	44505128	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	45196005	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44373530	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44373531	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44505129	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44505130	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44505208	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44901714	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
162-1	Aeroic Soil metabolism	45196006	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	45196007	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	45196008	SYNGENTA	OWN	
162-3	Anaerobic Aquatic Metabolism	44505131	SYNGENTA	OWN	
162-3	Anaerobic Aquatic Metabolism	44505132	SYNGENTA	OWN	
162-4	Aerobic Aquatic Metabolism	45196011	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44373532	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44505201	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44505202	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44505203	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44505204	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012





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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-1140

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
163-1	Leaching and adsorption/desorption -- laboratory	44508801	SYNGENTA	OWN	
164-1	Soil dissipation -- field	44505205	SYNGENTA	OWN	
164-1	Soil dissipation -- field	44505206	SYNGENTA	OWN	
164-1	Soil dissipation -- field	44505207	SYNGENTA	OWN	
164-1	Soil dissipation -- field	46951718	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	44901717	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	44901718	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45305201	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45478901	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45693501	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	46029801	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
166-1	Small Scale Prespective Groundwater Monitoring Stud	46089201	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	46562901	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	47020001	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	47106801	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	47418901	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44901715	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44901716	SYNGENTA	OWN	
860.1000	Background	46726301	SYNGENTA	OWN	
860.1000	Background	46726302	SYNGENTA	OWN	
860.1000	Background	46726303	SYNGENTA	OWN	
860.1000	Background	46726307	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	45651802	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45651803	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45651813	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45651814	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	46726304	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	46726305	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	46726306	SYNGENTA	OWN	
860.1340	Residue analytical method	44505127	SYNGENTA	OWN	
860.1340	Residue analytical method	44505221	SYNGENTA	OWN	
860.1340	Residue analytical method	44537109	SYNGENTA	OWN	
860.1340	Residue analytical method	45651801	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1500	Crop field trials	44505221	SYNGENTA	OWN	
850.1010	Aquatic invertebrate acute toxicity test, freshwater dap	44373511	SYNGENTA	OWN	
850.1010	Aquatic invertebrate acute toxicity test, freshwater dap	44901704	SYNGENTA	OWN	
850.1010	Aquatic invertebrate acute toxicity test, freshwater dap	44901705	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	44505007	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	44505008	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	44505009	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	44505007	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	44505008	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	44505009	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	44505007	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1045	Penaeid acute toxicity test	44505008	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	44505009	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	44505007	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	44505008	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	44505009	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44373509	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44373510	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44505007	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44505008	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44505009	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44901702	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: MESOTRIONE TECHNICAL

Ingredient: Mesotrione

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1075	Fish acute toxicity test, freshwater and marine	44901703	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	44505010	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	44505011	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	44505010	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	44505011	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	44505010	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	44505011	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	44373506	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	44373507	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	44373508	SYNGENTA	OWN	
850.2300	Avian reproduction test	44505005	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

Date: 9/28/2012		Reg. No:100-1140		Page 35 of 35	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419			Product: MESOTRIONE TECHNICAL		
Ingredient: Mesotrione					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.2300	Avian reproduction test	44505006	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol NA (Herbicide Safener) Tolerance at 40 CFR§ 180.460
Active Ingredient(s) and/or representative test compound(s) Benoxacor (CGA-154281) Herbicide Safener	Date September 28, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Food Use Outdoor	Product Name Benoxacor Technical

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

## SECTION I: METHOD OF DATA SUPPORT (Check one method only)

<input type="checkbox"/> I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).	<input checked="" type="checkbox"/> I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).
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## SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature <i>Tamara Murphy</i>	Date 9-28-2012	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory PRODUCT MANAGER
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## DATA MATRIX

Date: 9/28/2012		Reg. No: Not Applicable (safener)		Page 1 of 15	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: Benoxacor Technical			
Ingredient: Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Cite-All	Cite-All	Cite-All (AHE)	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART)	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (FES)	FIFRA ENDANGERED	PER	
Cite-All	Cite-All	Cite-All (ORE)	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (REJ)	RESIDENTIAL EXPOS	PER	
Cite-All	Cite-All	Cite-All (SDT)	SPRAY DRIFT TF	PER	
830.0000	Product identity and composition	40028803	SYNGENTA	OWN	
830.1550	Product identity and composition	40047501	SYNGENTA	OWN	
830.1550	Product identity and composition	44735601	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	42505201	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	44469701	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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DATA MATRIX

Date: 9/28/2012			Reg. No: Not Applicable (safener)		Page 2 of 15
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419			Product: Benoxacor Technical		
Ingredient: Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1600	Description of materials used to produce the product	44735601	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	48841901	SYNGENTA	OWN	
830.1620	Description of production process	42505201	SYNGENTA	OWN	
830.1620	Description of production process	44261301	SYNGENTA	OWN	
830.1620	Description of production process	44735601	SYNGENTA	OWN	
830.1650	Description of Formulation process	42505201	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	40047501	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	44735601	SYNGENTA	OWN	
830.1700	Preliminary analysis	40028802	SYNGENTA	OWN	
830.1700	Preliminary analysis	44735601	SYNGENTA	OWN	
830.1750	Certified limits	40028802	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012 Reg. No: Not Applicable (safener) Page 3 of 15

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1750	Certified limits	42505201	SYNGENTA	OWN	
830.1750	Certified limits	44735601	SYNGENTA	OWN	
830.1800	Enforcement analytical method	40028801	SYNGENTA	OWN	
830.1800	Enforcement analytical method	44735601	SYNGENTA	OWN	
830.6302	Color	40028803	SYNGENTA	OWN	
830.6302	Color	44735601	SYNGENTA	OWN	
830.6302	Color	45588101	SYNGENTA	OWN	
830.6303	Physical state	44735601	SYNGENTA	OWN	
830.6303	Physical state	45588101	SYNGENTA	OWN	
830.6304	Odor	44735601	SYNGENTA	OWN	
830.6304	Odor	45588101	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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DATA MATRIX

Date: 9/28/2012 Reg. No: Not Applicable (safener) Page 4 of 15

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6314	Oxidation/reduction: chemical incompatibility	44735601	SYNGENTA	OWN	
830.6314	Oxidation/reduction: chemical incompatibility	45588101	SYNGENTA	OWN	
830.6315	Flammability	45588101	SYNGENTA	OWN	
830.6316	Explosibility	45588101	SYNGENTA	OWN	
830.6317	Storage Stability	45588101	SYNGENTA	OWN	
830.6317	Storage Stability	46039701	SYNGENTA	OWN	
830.6317	Storage Stability	46344501	SYNGENTA	OWN	
830.6319	Miscibility	45588101	SYNGENTA	OWN	
830.6320	Corrosion characteristics	45588101	SYNGENTA	OWN	
830.6320	Corrosion characteristics	46039701	SYNGENTA	OWN	
830.6320	Corrosion characteristics	46344501	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

Date: 9/28/2012

Reg. No: Not Applicable (safener)

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.6321	Dielectric breakdown voltage	45588101	SYNGENTA	OWN	
830.7000	pH	45588101	SYNGENTA	OWN	
830.7100	Viscosity	45588101	SYNGENTA	OWN	
830.7300	Density/relative density/bulk density	45588101	SYNGENTA	OWN	
830.7550	Partition coefficient (n-octanol/water), shake flask met	40028803	SYNGENTA	OWN	
870.1100	Acute oral toxicity	40028806	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	40028807	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	40028808	SYNGENTA	OWN	
870.2400	Acute eye irritation	40028809	SYNGENTA	OWN	
870.2500	Acute dermal irritation	40028810	SYNGENTA	OWN	
870.2600	Skin sensitization	40028811	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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DATA MATRIX

Date: 9/28/2012		Reg. No: Not Applicable (safener)		Page 6 of 15	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: Benoxacor Technical			
Ingredient: Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3100	90-Day oral toxicity	40028812	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337401	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337402	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337403	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337404	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337405	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43337406	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43390501	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43390501	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	40028813	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	40028814	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3700	Prenatal developmental toxicity study	40028815	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	40028816	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	40775701	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	40775702	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	42888703	SYNGENTA	OWN	
870.4100	Chronic toxicity	40028812	SYNGENTA	OWN	
870.4100	Chronic toxicity	40028813	SYNGENTA	OWN	
870.4100	Chronic toxicity	42888701	SYNGENTA	OWN	
870.4100	Chronic toxicity	42888702	SYNGENTA	OWN	
870.4200	Carcinogenicity	42888702	SYNGENTA	OWN	
870.4300	Combined chronic toxicity/carcinogenicity	42888701	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4300	Combined chronic toxicity/carcinogenicity	42888704	SYNGENTA	OWN	
870.5140	Gene mutation in Aspergillus nidulans	40028817	SYNGENTA	OWN	
870.5140	Gene mutation in Aspergillus nidulans	40028818	SYNGENTA	OWN	
870.5140	Gene mutation in Aspergillus nidulans	40388806	SYNGENTA	OWN	
870.5140	Gene mutation in Aspergillus nidulans	40388807	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	40388804	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	40388805	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	40388806	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	40732103	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	40732104	SYNGENTA	OWN	
870.5380	Mammalian spermatogonial chromosomal aberration t	40388804	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.5380	Mammalian spermatogonial chromosomal aberration t	40388805	SYNGENTA	OWN	
870.5395	Mammalian erythrocyte micronucleus test	40028819	SYNGENTA	OWN	
870.5395	Mammalian erythrocyte micronucleus test	40388807	SYNGENTA	OWN	
870.5395	Mammalian erythrocyte micronucleus test	40388808	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40028820	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40028821	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40388809	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40388810	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40388811	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40388812	SYNGENTA	OWN	
870.5500	Bacterial DNA damage or repair tests	40388813	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

Date: 9/28/2012		Reg. No: Not Applicable (safener)		Page 10 of 15	
Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: Benoxacor Technical			
Ingredient: Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7485	Metabolism and pharmacokinetics	40028822	SYNGENTA	OWN	
870.7600	Dermal penetration	40732105	SYNGENTA	OWN	
870.7600	Dermal penetration	40931201	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	40028830	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	40028831	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	40519301	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	41210801	SYNGENTA	OWN	
162-1	Aerobic Soil metabolism	40028832	SYNGENTA	OWN	
162-2	Anaerobic Soil Metabolism	40028833	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40028834	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40426701	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
163-1	Leaching and adsorption/desorption – laboratory	40629103	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40028824	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869802	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869803	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869804	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869805	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869806	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869807	SYNGENTA	OWN	
860.1300	Nature of the residue – plants, livestock	40869808	SYNGENTA	OWN	
860.1340	Residue analytical method	40426702	SYNGENTA	OWN	
860.1340	Residue analytical method	40426703	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	40426704	SYNGENTA	OWN	
860.1340	Residue analytical method	40426705	SYNGENTA	OWN	
860.1340	Residue analytical method	40426706	SYNGENTA	OWN	
860.1340	Residue analytical method	40426708	SYNGENTA	OWN	
860.1340	Residue analytical method	40426711	SYNGENTA	OWN	
860.1340	Residue analytical method	40426712	SYNGENTA	OWN	
860.1340	Residue analytical method	40614701	SYNGENTA	OWN	
860.1340	Residue analytical method	40732106	SYNGENTA	OWN	
860.1340	Residue analytical method	40732108	SYNGENTA	OWN	
860.1340	Residue analytical method	40869802	SYNGENTA	OWN	
860.1340	Residue analytical method	40869805	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes.
860.1340	Residue analytical method	40869806	SYNGENTA	OWN	
860.1340	Residue analytical method	40869807	SYNGENTA	OWN	
860.1340	Residue analytical method	40869808	SYNGENTA	OWN	
860.1340	Residue analytical method	40869809	SYNGENTA	OWN	
860.1340	Residue analytical method	41177401	SYNGENTA	OWN	
860.1340	Residue analytical method	41210802	SYNGENTA	OWN	
860.1340	Residue analytical method	43816702	SYNGENTA	OWN	
860.1360	Multiresidue method	40426709	SYNGENTA	OWN	
860.1360	Multiresidue method	40426710	SYNGENTA	OWN	
860.1360	Multiresidue method	40426711	SYNGENTA	OWN	
860.1380	Storage stability data	40426707	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: Benoxacor Technical			
Ingredient: Benoxacor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1380	Storage stability data	40732107	SYNGENTA	OWN	
860.1500	Crop field trials	40426702	SYNGENTA	OWN	
860.1500	Crop field trials	40426704	SYNGENTA	OWN	
860.1500	Crop field trials	40426710	SYNGENTA	OWN	
860.1500	Crop field trials	40869801	SYNGENTA	OWN	
860.1500	Crop field trials	40869803	SYNGENTA	OWN	
860.1500	Crop field trials	43816701	SYNGENTA	OWN	
860.1520	Processed food/feed	43816701	SYNGENTA	OWN	
850.1010	Aquatic invertebrate acute toxicity test, freshwater daph	40629102	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	40028828	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	40028829	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: Benoxacor Technical

Ingredient: Benoxacor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1075	Fish acute toxicity test, freshwater and marine	40629101	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	40028829	SYNGENTA	OWN	
850.1730	Accumulation in fish -- waiver	40028835	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	40028822	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	40028826	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	40028827	SYNGENTA	OWN	

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Date: 9/28/2012



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## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-1207
Active Ingredient(s) and/or representative test compound(s) Atrazine	Date September 28, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Uses	Product Name Atrazine Technical

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

## SECTION I: METHOD OF DATA SUPPORT (Check one method only)

☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

## SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 9-28-2012	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
890.1100	Amphibian Metamorphosis Assay (AMA) Data Require	48614801	SYNGENTA	OWN	
Cite-All	Cite-All	Cite-All (AHE	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (FES	FIFRA ENDANGERED	PER	
Cite-All	Cite-All	Cite-All (ORE	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (REJ	RESIDENTIAL EXPOS	PER	
Cite-All	Cite-All	Cite-All (SDT	SPRAY DRIFT TF	PER	
63-1	Product chemistry historical	00023497	SYNGENTA	OWN	
63-1	Product chemistry historical	00023548	SYNGENTA	OWN	
63-1	Product chemistry historical	00023963	SYNGENTA	OWN	
830.0000	Product identity and composition	00142160	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.0000	Product identity and composition	00164822	SYNGENTA	OWN	
830.0000	Product identity and composition	40566501	SYNGENTA	OWN	
830.0000	Product identity and composition	43016501	SYNGENTA	OWN	
830.0000	Product identity and composition	43188902	SYNGENTA	OWN	
830.0000	Product identity and composition	43337901	SYNGENTA	OWN	
830.0000	Product identity and composition	43505801	SYNGENTA	OWN	
830.1550	Product identity and composition	00023497	SYNGENTA	OWN	
830.1550	Product identity and composition	00023548	SYNGENTA	OWN	
830.1550	Product identity and composition	43188901	SYNGENTA	OWN	
830.1550	Product identity and composition	46409801	SYNGENTA	OWN	
830.1550	Product identity and composition	47673401	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1600	Description of materials used to produce the product	00023548	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	42043501	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	45399905	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	46354401	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	46409801	SYNGENTA	OWN	
830.1600	Description of materials used to produce the product	47673401	SYNGENTA	OWN	
830.1620	Description of production process	00023548	SYNGENTA	OWN	
830.1620	Description of production process	42043501	SYNGENTA	OWN	
830.1620	Description of production process	45399905	SYNGENTA	OWN	
830.1620	Description of production process	47673401	SYNGENTA	OWN	
830.1650	Description of Formulation process	00023548	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1650	Description of Formulation process	42043501	SYNGENTA	OWN	
830.1650	Description of Formulation process	45399905	SYNGENTA	OWN	
830.1650	Description of Formulation process	46409801	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	42437401	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	43188901	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	46409801	SYNGENTA	OWN	
830.1670	Discussion of formation of impurities	47673401	SYNGENTA	OWN	
830.1700	Preliminary analysis	00164821	SYNGENTA	OWN	
830.1700	Preliminary analysis	42873701	SYNGENTA	OWN	
830.1700	Preliminary analysis	42925201	SYNGENTA	OWN	
830.1700	Preliminary analysis	44488801	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.1700	Preliminary analysis	47673401	SYNGENTA	OWN	
830.1750	Certified limits	00142160	SYNGENTA	OWN	
830.1750	Certified limits	42509901	SYNGENTA	OWN	
830.1750	Certified limits	46409801	SYNGENTA	OWN	
830.1750	Certified limits	47673401	SYNGENTA	OWN	
830.1800	Enforcement analytical method	00164821	SYNGENTA	OWN	
830.1800	Enforcement analytical method	46409801	SYNGENTA	OWN	
830.1800	Enforcement analytical method	47673401	SYNGENTA	OWN	
830.6313	Stability to normal and elevated temperatures, metals,	43796001	SYNGENTA	OWN	
830.6317	Storage Stability	43395501	SYNGENTA	OWN	
830.6317	Storage Stability	43598604	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419			Product: ATRAZINE TECHNICAL		
Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.7050	UV/Visible absorption	46742301	SYNGENTA	OWN	
830.7550	Partition coefficient (n-octanol/water), shake flask met	00142160	SYNGENTA	OWN	
830.7550	Partition coefficient (n-octanol/water), shake flask met	00153235	SYNGENTA	OWN	
830.7550	Partition coefficient (n-octanol/water), shake flask met	00164822	SYNGENTA	OWN	
830.7560	Partition coefficient (n-octanol/water), generator column	00142160	SYNGENTA	OWN	
830.7560	Partition coefficient (n-octanol/water), generator column	00153235	SYNGENTA	OWN	
830.7560	Partition coefficient (n-octanol/water), generator column	00164822	SYNGENTA	OWN	
830.7570	Partition coefficient (n-octanol/water), estimation by liq	00142160	SYNGENTA	OWN	
830.7570	Partition coefficient (n-octanol/water), estimation by liq	00153235	SYNGENTA	OWN	
830.7570	Partition coefficient (n-octanol/water), estimation by liq	00164822	SYNGENTA	OWN	
81-9	Acute Tox & Irritation - Developmental Neurotoxicity,	45068701	US EPA	PUBLIC	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1100	Acute oral toxicity	00024706	SYNGENTA	OWN	
870.1100	Acute oral toxicity	00024707	SYNGENTA	OWN	
870.1100	Acute oral toxicity	43013201	SYNGENTA	OWN	
870.1100	Acute oral toxicity	43013202	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	00024708	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	42089901	SYNGENTA	OWN	
870.2400	Acute eye irritation	00024709	SYNGENTA	OWN	
870.2400	Acute eye irritation	46539006	SYNGENTA	OWN	
870.2500	Acute dermal irritation	00024710	SYNGENTA	OWN	
870.2600	Skin sensitization	46409815	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	00024703	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3100	90-Day oral toxicity	00024772	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	00027903	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	41293501	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	41392401	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	41547901	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43013203	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43013204	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43013205	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43013206	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43013207	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44723701	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3150	Subchronic nonrodent oral toxicity - 90-day	00024703	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	00024772	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	00027903	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	41293501	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	41392401	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	41547901	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43013203	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43013204	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43013205	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43013206	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43013207	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3150	Subchronic nonrodent oral toxicity - 90-day	44723701	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	00023466	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	00023562	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	00024726	SYNGENTA	OWN	
870.3200	Repeated dose dermal toxicity - 21/28 day	42089902	SYNGENTA	OWN	
870.3250	90-Day dermal toxicity	00027184	SYNGENTA	OWN	
870.3250	90-Day dermal toxicity	00027904	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	00038041	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	00143006	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	00143007	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	00143008	SYNGENTA	OWN	

*Tamara Murphy*

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3700	Prenatal developmental toxicity study	40566301	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	40566302	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	41065201	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	41065202	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	41392402	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	41686401	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	42089903	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	42873702	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	43013208	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	43013209	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	00024471	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3800	Reproduction and fertility effects	40431303	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	41986801	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	42547106	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	42547107	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	42743902	SYNGENTA	OWN	
870.3800	Reproduction and fertility effects	42743903	SYNGENTA	OWN	
870.4100	Chronic toxicity	00023566	SYNGENTA	OWN	
870.4100	Chronic toxicity	00023568	SYNGENTA	OWN	
870.4100	Chronic toxicity	00024739	SYNGENTA	OWN	
870.4100	Chronic toxicity	00041408	SYNGENTA	OWN	
870.4100	Chronic toxicity	00089151	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4100	Chronic toxicity	00093148	SYNGENTA	OWN	
870.4100	Chronic toxicity	00141874	SYNGENTA	OWN	
870.4100	Chronic toxicity	00157875	SYNGENTA	OWN	
870.4100	Chronic toxicity	00158930	SYNGENTA	OWN	
870.4100	Chronic toxicity	04043101	SYNGENTA	OWN	
870.4100	Chronic toxicity	40431301	SYNGENTA	OWN	
870.4100	Chronic toxicity	40629302	SYNGENTA	OWN	
870.4100	Chronic toxicity	41293801	SYNGENTA	OWN	
870.4100	Chronic toxicity	42041406	SYNGENTA	OWN	
870.4100	Chronic toxicity	42085001	SYNGENTA	OWN	
870.4100	Chronic toxicity	42146101	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4100	Chronic toxicity	42662901	SYNGENTA	OWN	
870.4100	Chronic toxicity	43314301	SYNGENTA	OWN	
870.4100	Chronic toxicity	43532001	SYNGENTA	OWN	
870.4100	Chronic toxicity	43598623	SYNGENTA	OWN	
870.4100	Chronic toxicity	43934402	SYNGENTA	OWN	
870.4100	Chronic toxicity	44005301	SYNGENTA	OWN	
870.4100	Chronic toxicity	44152103	SYNGENTA	OWN	
870.4100	Chronic toxicity	44544701	SYNGENTA	OWN	
870.4100	Chronic toxicity	45622309	SYNGENTA	OWN	
870.4200	Carcinogenicity	00085399	SYNGENTA	OWN	
870.4200	Carcinogenicity	00141874	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4200	Carcinogenicity	00157875	SYNGENTA	OWN	
870.4200	Carcinogenicity	00158930	SYNGENTA	OWN	
870.4200	Carcinogenicity	04043101	SYNGENTA	OWN	
870.4200	Carcinogenicity	40431302	SYNGENTA	OWN	
870.4200	Carcinogenicity	40614405	SYNGENTA	OWN	
870.4200	Carcinogenicity	40629301	SYNGENTA	OWN	
870.4200	Carcinogenicity	40629302	SYNGENTA	OWN	
870.4200	Carcinogenicity	42204401	SYNGENTA	OWN	
870.4200	Carcinogenicity	42227001	SYNGENTA	OWN	
870.4200	Carcinogenicity	42662901	SYNGENTA	OWN	
870.4200	Carcinogenicity	42942501	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.4200	Carcinogenicity	43314301	SYNGENTA	OWN	
870.4200	Carcinogenicity	43532001	SYNGENTA	OWN	
870.4200	Carcinogenicity	43934402	SYNGENTA	OWN	
870.4200	Carcinogenicity	44152103	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00060642	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00078333	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161785	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161786	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161787	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161788	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161789	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.5000	Genetic Toxicity tests	00161790	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161791	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	00161931	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40246601	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40246602	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40246603	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40722301	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40722302	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40722303	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40722304	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	40722305	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419		Product: ATRAZINE TECHNICAL			
Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.5000	Genetic Toxicity tests	40888101	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	41479401	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	42547105	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	42637003	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093101	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093102	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093103	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093104	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093105	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43093106	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00023566	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.6200	Neurotoxicity screening battery	00023568	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00024739	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00041408	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00089151	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00093148	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00141874	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00157875	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	00158930	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	04043101	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	40431301	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	40629302	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.6200	Neurotoxicity screening battery	41293801	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	42041406	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	42085001	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	42146101	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	42662901	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	43314301	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	43532001	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	43598623	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	43934402	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44005301	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	44152103	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.6200	Neurotoxicity screening battery	44544701	SYNGENTA	OWN	
870.6200	Neurotoxicity screening battery	45622309	SYNGENTA	OWN	
870.7200	Domestic animal safety	00080629	Geigy Chemical Co	OWN	
870.7200	Domestic animal safety	00093524	Geigy Chemical Co	OWN	
870.7485	Metabolism and pharmacokinetics	00022857	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	00038297	Geigy Chemical Co	OWN	
870.7485	Metabolism and pharmacokinetics	00055672	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	00080601	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	00093150	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	00151796	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	00161854	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7485	Metabolism and pharmacokinetics	00163848	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431304	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431305	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431306	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431307	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431308	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431309	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431310	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431311	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431313	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431314	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7485	Metabolism and pharmacokinetics	40431315	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431351	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40431352	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	40437501	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	43934407	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	43934408	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44152112	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44152113	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44315405	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44713802	SYNGENTA	OWN	
870.7600	Dermal penetration	00151796	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7600	Dermal penetration	43314302	SYNGENTA	OWN	
870.7600	Dermal penetration	43598606	SYNGENTA	OWN	
870.7600	Dermal penetration	48534901	SYNGENTA	OWN	
870.7800	Immunotoxicity	48153407	SYNGENTA	OWN	
870.7800	Immunotoxicity	48180104	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00012124	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00015435	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00015437	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016137	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016158	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016231	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016233	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016234	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016235	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016236	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016237	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016238	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016240	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016249	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016250	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016252	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016253	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016254	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016256	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016261	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016263	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016265	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016267	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016268	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016272	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016273	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016274	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016275	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016277	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016278	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016279	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016280	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016318	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016334	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016344	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016348	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016354	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016362	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016364	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016373	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016374	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016377	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016380	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016381	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016386	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016387	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016434	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016471	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016481	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016493	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016494	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016504	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016508	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016509	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016512	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016553	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016571	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016594	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016623	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016650	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016651	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016655	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016656	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016657	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016658	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016663	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016667	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016668	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016669	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016670	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016672	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016673	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016674	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016675	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016677	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016682	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016690	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016691	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016692	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016693	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016694	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016698	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016699	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016701	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016704	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016705	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016709	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016729	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016742	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016744	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016746	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016747	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016749	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016750	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012





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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016850	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016857	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016859	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016860	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016861	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016862	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016863	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016864	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016870	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016877	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016891	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016892	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016895	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016896	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016897	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016899	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016908	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016916	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016928	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016929	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016930	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016932	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00016933	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016935	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016937	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016943	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016953	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016965	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00016967	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017003	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017007	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017008	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017032	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017035	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017041	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017049	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017051	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017053	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017062	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017064	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017074	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017096	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017099	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017120	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017121	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017122	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017127	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017129	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017130	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017131	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017132	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017133	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017134	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017135	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017138	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017139	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017140	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017141	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017142	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017143	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017147	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017151	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017155	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017160	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017163	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017166	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017169	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017170	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017171	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017172	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017175	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017194	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017195	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017196	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017198	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017199	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017200	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017201	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017202	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017204	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017205	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017251	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017253	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017262	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017270	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017271	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017272	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017273	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017279	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017280	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017283	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017284	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017288	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017289	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017290	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017293	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017298	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017299	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017300	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017319	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017320	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017322	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017323	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017327	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017331	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017345	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017368	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017374	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017375	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017380	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017381	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017384	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017402	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017404	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017431	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017433	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017434	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017439	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017444	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017445	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017495	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017509	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017513	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017518	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017519	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017524	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017525	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017544	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017545	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017553	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017580	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017601	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017604	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017607	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017636	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017637	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017638	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017640	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017641	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017643	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017644	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017645	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017646	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00017697	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00017710	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018699	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018701	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018702	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018703	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018704	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018705	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018712	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018716	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018726	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00018733	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018735	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018746	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018747	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018761	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018765	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018766	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00018907	CIBA AGROCHEMICA	OWN	
850.4025	Target area phytotoxicity	00020524	Zeneca	OWN	
850.4025	Target area phytotoxicity	00023245	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00023356	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00023940	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00023941	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024115	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024312	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024315	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024323	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024327	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024389	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024402	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024404	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024405	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012





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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00024407	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024408	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024409	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024413	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024415	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024416	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024432	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024701	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024751	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024795	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024801	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00024802	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024803	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024804	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024987	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00024990	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00025003	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00025252	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00025260	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00025261	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00025462	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00026086	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00026396	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00026638	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00026972	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00026986	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027179	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027336	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027337	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027339	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027340	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027341	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027342	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00027343	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027344	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027345	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027349	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027350	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027356	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027357	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027358	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027751	CIBA AGROCHEMICA	OWN	
850.4025	Target area phytotoxicity	00027873	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027909	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00027917	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027918	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027935	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027938	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027940	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00027989	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00028169	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00028430	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00028540	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00028569	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00029313	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00030159	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00030196	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00030226	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00031535	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00032199	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00032209	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00032211	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00032212	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00032216	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00033759	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00055643	IR-4	PER	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4025	Target area phytotoxicity	00087675	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00094198	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00097571	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00140964	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00158497	SYNGENTA	OWN	
850.4025	Target area phytotoxicity	00165459	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	41223001	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	41223002	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	41223003	SYNGENTA	OWN	
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	41223001	SYNGENTA	OWN	
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	41223002	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	41223003	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	41223001	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	41223002	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	41223003	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	42041402	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	42041403	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	42041402	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	42041403	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	42041402	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	42041403	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I and II	41065203	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	41065204	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	42041404	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	42060701	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43074801	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43074802	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43074803	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43074804	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020002	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020004	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020009	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020010	US EPA	PUBLIC	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020011	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020012	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45020020	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	45088207	US EPA	PUBLIC	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	46150901	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	41065203	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	41065204	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	42041404	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	42060701	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43074801	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43074802	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.5400	Algal toxicity, Tiers 1 and 2	43074803	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43074804	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	45020002	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020004	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020009	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020010	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020011	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020012	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45020020	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	45088207	US EPA	PUBLIC	
850.5400	Algal toxicity, Tiers 1 and 2	47046105	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.7100	Data reporting for environmental chemistry methods	46839501	SYNGENTA	OWN	
850.7100	Data reporting for environmental chemistry methods	48331501	SYNGENTA	OWN	
850.7100	Data reporting for environmental chemistry methods	48346602	SYNGENTA	OWN	
875.2100	Foliar dislodgeable residue dissipation	44958801	SYNGENTA	OWN	
875.2200	Soil residue dissipation	44958801	SYNGENTA	OWN	
875.2400	Dermal exposure	43016506	SYNGENTA	OWN	
875.2400	Dermal exposure	43934415	SYNGENTA	OWN	
875.2400	Dermal exposure	43934417	SYNGENTA	OWN	
875.2400	Dermal exposure	43934418	SYNGENTA	OWN	
875.2400	Dermal exposure	44152109	SYNGENTA	OWN	
875.2400	Dermal exposure	44152111	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
875.2600	Biological Monitoring	43016506	SYNGENTA	OWN	
875.2600	Biological Monitoring	43934415	SYNGENTA	OWN	
875.2600	Biological Monitoring	43934418	SYNGENTA	OWN	
875.2600	Biological Monitoring	44152109	SYNGENTA	OWN	
875.2600	Biological Monitoring	44152111	SYNGENTA	OWN	
850.3020	Honey bee acute contact toxicity	00036935	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	00023963	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	00024013	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	00027855	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	00105242	SYNGENTA	OWN	
161-1	Hydrolysis - laboratory	40431319	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
161-2	Photodegradation in water - laboratory	42089904	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	43016507	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	43215001	SYNGENTA	OWN	
161-2	Photodegradation in water - laboratory	45545301	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	00024010	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	40431320	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	42089905	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	00027866	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	00027869	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	40302101	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	40431321	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
162-1	Aeroic Soil metabolism	40431322	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	40629303	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	42089906	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	45622303	SYNGENTA	OWN	
162-2	Anaerobic Soil Metabolism	40302101	SYNGENTA	OWN	
162-2	Anaerobic Soil Metabolism	40431321	SYNGENTA	OWN	
162-2	Anaerobic Soil Metabolism	40629303	SYNGENTA	OWN	
162-2	Anaerobic Soil Metabolism	42089906	SYNGENTA	OWN	
162-3	Anaerobic Aquatic Metabolism	40431323	SYNGENTA	OWN	
162-3	Anaerobic Aquatic Metabolism	46338702	SYNGENTA	OWN	
162-4	Aerobic Aquatic Metabolism	46338702	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
163-1	Leaching and adsorption/desorption -- laboratory	00027870	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00027871	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00027873	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00042153	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00053135	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00065826	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00065827	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00068104	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00085856	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00090052	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	00126717	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
163-1	Leaching and adsorption/desorption -- laboratory	00130228	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40431324	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40431328	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40431329	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40431330	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	40431331	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	41257901	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	41257902	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	41257903	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	41257904	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	41257905	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
163-1	Leaching and adsorption/desorption -- laboratory	41257906	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	45371822	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	45371826	SYNGENTA	OWN	
163-2	Laboratory Volatility Study	46338701	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00016449	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00016450	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00022861	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00022862	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00023515	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00027018	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00027024	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
164-1	Soil dissipation -- field	00027025	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00027026	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00027863	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00027870	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00030105	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00065584	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00103153	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00103163	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00118936	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00156090	SYNGENTA	OWN	
164-1	Soil dissipation -- field	00156570	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
164-1	Soil dissipation -- field	40431335	SYNGENTA	OWN	
164-1	Soil dissipation -- field	40431336	SYNGENTA	OWN	
164-1	Soil dissipation -- field	40431337	SYNGENTA	OWN	
164-1	Soil dissipation -- field	40431338	SYNGENTA	OWN	
164-1	Soil dissipation -- field	40431339	SYNGENTA	OWN	
164-1	Soil dissipation -- field	42165504	SYNGENTA	OWN	
164-1	Soil dissipation -- field	42165505	SYNGENTA	OWN	
164-1	Soil dissipation -- field	42165509	SYNGENTA	OWN	
164-2	Aquatic field dissipation	43016507	SYNGENTA	OWN	
164-2	Aquatic field dissipation	43215001	SYNGENTA	OWN	
164-3	Forestry Field Dissipation Study	40431340	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
164-3	Forestry Field Dissipation Study	45622303	SYNGENTA	OWN	
165 Series	Accumulation study guidelines	00067894	SYNGENTA	OWN	
165 Series	Accumulation study guidelines	00126717	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	44769801	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45058703	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45209601	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45399906	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45622305	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45882901	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	43713701	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	43973001	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
166-2	Small Scale Retrospective Groundwater Monitoring St	44049201	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44222603	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44222604	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612901	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612902	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612903	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612904	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612905	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612906	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44612907	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44744101	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
166-2	Small Scale Retrospective Groundwater Monitoring St	44744102	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44997001	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	44997003	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45058801	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45058802	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45058803	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45344203	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45545306	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45629801	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45629802	SYNGENTA	OWN	
166-2	Small Scale Retrospective Groundwater Monitoring St	45711304	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
166-2	Small Scale Retrospective Groundwater Monitoring St	45870401	SYNGENTA	OWN	
171-5	Reduction of Residues	42878401	SYNGENTA	OWN	
860.1000	Background	45622301	SYNGENTA	OWN	
860.1000	Background	48487001	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00015706	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00015950	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00016306	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00016401	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00016402	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00016403	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00016602	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00022861	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00022862	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023280	Geigy Chemical Co	OWN	
860.1300	Nature of the residue -- plants, livestock	00023308	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023324	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023325	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023330	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023475	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023499	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023500	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023502	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00023514	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023520	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023521	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023529	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00023925	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024007	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024024	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024058	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024356	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024358	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024375	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00024385	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024387	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024435	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024474	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024732	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024786	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024788	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024789	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00024992	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00027862	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00027875	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00027900	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00029633	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00029723	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00032896	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00036146	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00037783	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00038376	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00043642	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00044709	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00044710	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00055644	IR-4	PER	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00055672	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00065049	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00065583	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00078299	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00078300	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00078304	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00080601	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00087889	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00089983	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00094188	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00094189	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00103153	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00103163	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00103164	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00103167	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00103170	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00108381	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00111690	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00111692	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00115588	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00118936	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00121720	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	00126717	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00131860	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00133874	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00133875	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00142616	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00156009	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00159206	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	00161854	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431345	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431346	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431347	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	40431348	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431349	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431350	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431351	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431352	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431353	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431354	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431355	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431356	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431357	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431364	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	40431365	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431366	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431368	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431369	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431370	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431371	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431375	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431376	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431377	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431381	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431428	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	40431431	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431432	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431436	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40431439	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	40437502	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209801	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209802	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209803	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209804	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209805	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209806	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	41209807	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41209808	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41397102	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	41397103	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42391402	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547116	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547118	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547119	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547120	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547121	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42547122	SYNGENTA	OWN	

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Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	42547123	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42873703	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	42925601	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43016503	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43016504	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43048501	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43395502	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43508501	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43598628	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43598629	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43934412	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1300	Nature of the residue -- plants, livestock	44152119	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44152120	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44152121	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44315408	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44315409	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44315412	SYNGENTA	OWN	
860.1340	Residue analytical method	00015570	SYNGENTA	OWN	
860.1340	Residue analytical method	00015571	SYNGENTA	OWN	
860.1340	Residue analytical method	00015572	SYNGENTA	OWN	
860.1340	Residue analytical method	00015586	SYNGENTA	OWN	
860.1340	Residue analytical method	00015590	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00015591	SYNGENTA	OWN	
860.1340	Residue analytical method	00015592	SYNGENTA	OWN	
860.1340	Residue analytical method	00015593	SYNGENTA	OWN	
860.1340	Residue analytical method	00015594	SYNGENTA	OWN	
860.1340	Residue analytical method	00015595	SYNGENTA	OWN	
860.1340	Residue analytical method	00015687	SYNGENTA	OWN	
860.1340	Residue analytical method	00015688	SYNGENTA	OWN	
860.1340	Residue analytical method	00015689	SYNGENTA	OWN	
860.1340	Residue analytical method	00015691	SYNGENTA	OWN	
860.1340	Residue analytical method	00015693	SYNGENTA	OWN	
860.1340	Residue analytical method	00015705	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00015711	SYNGENTA	OWN	
860.1340	Residue analytical method	00015712	SYNGENTA	OWN	
860.1340	Residue analytical method	00015716	SYNGENTA	OWN	
860.1340	Residue analytical method	00015717	SYNGENTA	OWN	
860.1340	Residue analytical method	00015718	SYNGENTA	OWN	
860.1340	Residue analytical method	00015739	SYNGENTA	OWN	
860.1340	Residue analytical method	00015740	SYNGENTA	OWN	
860.1340	Residue analytical method	00015741	SYNGENTA	OWN	
860.1340	Residue analytical method	00015742	SYNGENTA	OWN	
860.1340	Residue analytical method	00015743	SYNGENTA	OWN	
860.1340	Residue analytical method	00015744	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00015745	SYNGENTA	OWN	
860.1340	Residue analytical method	00015746	SYNGENTA	OWN	
860.1340	Residue analytical method	00015747	SYNGENTA	OWN	
860.1340	Residue analytical method	00015748	SYNGENTA	OWN	
860.1340	Residue analytical method	00015749	SYNGENTA	OWN	
860.1340	Residue analytical method	00015750	SYNGENTA	OWN	
860.1340	Residue analytical method	00015751	SYNGENTA	OWN	
860.1340	Residue analytical method	00015752	SYNGENTA	OWN	
860.1340	Residue analytical method	00015753	SYNGENTA	OWN	
860.1340	Residue analytical method	00015754	SYNGENTA	OWN	
860.1340	Residue analytical method	00015755	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00015756	SYNGENTA	OWN	
860.1340	Residue analytical method	00015757	SYNGENTA	OWN	
860.1340	Residue analytical method	00015954	SYNGENTA	OWN	
860.1340	Residue analytical method	00015955	SYNGENTA	OWN	
860.1340	Residue analytical method	00016392	SYNGENTA	OWN	
860.1340	Residue analytical method	00016394	SYNGENTA	OWN	
860.1340	Residue analytical method	00016395	SYNGENTA	OWN	
860.1340	Residue analytical method	00016396	SYNGENTA	OWN	
860.1340	Residue analytical method	00016399	SYNGENTA	OWN	
860.1340	Residue analytical method	00016440	SYNGENTA	OWN	
860.1340	Residue analytical method	00016441	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00016442	SYNGENTA	OWN	
860.1340	Residue analytical method	00016443	SYNGENTA	OWN	
860.1340	Residue analytical method	00016444	SYNGENTA	OWN	
860.1340	Residue analytical method	00016445	SYNGENTA	OWN	
860.1340	Residue analytical method	00016596	SYNGENTA	OWN	
860.1340	Residue analytical method	00016600	SYNGENTA	OWN	
860.1340	Residue analytical method	00016601	SYNGENTA	OWN	
860.1340	Residue analytical method	00022861	SYNGENTA	OWN	
860.1340	Residue analytical method	00022862	SYNGENTA	OWN	
860.1340	Residue analytical method	00023498	SYNGENTA	OWN	
860.1340	Residue analytical method	00023519	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00023522	SYNGENTA	OWN	
860.1340	Residue analytical method	00023523	SYNGENTA	OWN	
860.1340	Residue analytical method	00023524	SYNGENTA	OWN	
860.1340	Residue analytical method	00023525	SYNGENTA	OWN	
860.1340	Residue analytical method	00023526	SYNGENTA	OWN	
860.1340	Residue analytical method	00023527	SYNGENTA	OWN	
860.1340	Residue analytical method	00023528	SYNGENTA	OWN	
860.1340	Residue analytical method	00023530	SYNGENTA	OWN	
860.1340	Residue analytical method	00024023	SYNGENTA	OWN	
860.1340	Residue analytical method	00024091	SYNGENTA	OWN	
860.1340	Residue analytical method	00024306	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00024313	SYNGENTA	OWN	
860.1340	Residue analytical method	00024379	Geigy	OWN	
860.1340	Residue analytical method	00024384	SYNGENTA	OWN	
860.1340	Residue analytical method	00024414	SYNGENTA	OWN	
860.1340	Residue analytical method	00024475	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00024480	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00024482	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00024487	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00024692	SYNGENTA	OWN	
860.1340	Residue analytical method	00024696	SYNGENTA	OWN	
860.1340	Residue analytical method	00024786	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00024788	SYNGENTA	OWN	
860.1340	Residue analytical method	00024789	SYNGENTA	OWN	
860.1340	Residue analytical method	00024799	SYNGENTA	OWN	
860.1340	Residue analytical method	00024989	SYNGENTA	OWN	
860.1340	Residue analytical method	00024995	Geigy	OWN	
860.1340	Residue analytical method	00026393	SYNGENTA	OWN	
860.1340	Residue analytical method	00026977	SYNGENTA	OWN	
860.1340	Residue analytical method	00026980	SYNGENTA	OWN	
860.1340	Residue analytical method	00027127	SYNGENTA	OWN	
860.1340	Residue analytical method	00027179	SYNGENTA	OWN	
860.1340	Residue analytical method	00027917	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00029721	SYNGENTA	OWN	
860.1340	Residue analytical method	00029724	SYNGENTA	OWN	
860.1340	Residue analytical method	00030973	SYNGENTA	OWN	
860.1340	Residue analytical method	00032210	SYNGENTA	OWN	
860.1340	Residue analytical method	00034116	SYNGENTA	OWN	
860.1340	Residue analytical method	00040693	SYNGENTA	OWN	
860.1340	Residue analytical method	00043643	SYNGENTA	OWN	
860.1340	Residue analytical method	00044320	SYNGENTA	OWN	
860.1340	Residue analytical method	00053627	SYNGENTA	OWN	
860.1340	Residue analytical method	00055643	IR-4	PER	
860.1340	Residue analytical method	00065582	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00066342	SYNGENTA	OWN	
860.1340	Residue analytical method	00078297	SYNGENTA	OWN	
860.1340	Residue analytical method	00078299	SYNGENTA	OWN	
860.1340	Residue analytical method	00078300	SYNGENTA	OWN	
860.1340	Residue analytical method	00078304	SYNGENTA	OWN	
860.1340	Residue analytical method	00080629	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00087670	SYNGENTA	OWN	
860.1340	Residue analytical method	00093142	SYNGENTA	OWN	
860.1340	Residue analytical method	00093150	SYNGENTA	OWN	
860.1340	Residue analytical method	00093520	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00093523	Geigy Chemical Co	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00093524	Geigy Chemical Co	OWN	
860.1340	Residue analytical method	00094135	SYNGENTA	OWN	
860.1340	Residue analytical method	00106039	SYNGENTA	OWN	
860.1340	Residue analytical method	00111689	Geigy	OWN	
860.1340	Residue analytical method	00111690	SYNGENTA	OWN	
860.1340	Residue analytical method	00111692	SYNGENTA	OWN	
860.1340	Residue analytical method	00115588	SYNGENTA	OWN	
860.1340	Residue analytical method	00115783	SYNGENTA	OWN	
860.1340	Residue analytical method	00115789	SYNGENTA	OWN	
860.1340	Residue analytical method	00115793	SYNGENTA	OWN	
860.1340	Residue analytical method	00115794	SYNGENTA	OWN	

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	00126712	SYNGENTA	OWN	
860.1340	Residue analytical method	00131860	SYNGENTA	OWN	
860.1340	Residue analytical method	00142616	SYNGENTA	OWN	
860.1340	Residue analytical method	00154870	SYNGENTA	OWN	
860.1340	Residue analytical method	00155188	SYNGENTA	OWN	
860.1340	Residue analytical method	00156009	SYNGENTA	OWN	
860.1340	Residue analytical method	00158180	SYNGENTA	OWN	
860.1340	Residue analytical method	00158184	SYNGENTA	OWN	
860.1340	Residue analytical method	00158187	SYNGENTA	OWN	
860.1340	Residue analytical method	00159206	SYNGENTA	OWN	
860.1340	Residue analytical method	00161854	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	40431383	SYNGENTA	OWN	
860.1340	Residue analytical method	40431401	SYNGENTA	OWN	
860.1340	Residue analytical method	40431414	SYNGENTA	OWN	
860.1340	Residue analytical method	40431418	SYNGENTA	OWN	
860.1340	Residue analytical method	40431420	SYNGENTA	OWN	
860.1340	Residue analytical method	40431421	SYNGENTA	OWN	
860.1340	Residue analytical method	40431422	SYNGENTA	OWN	
860.1340	Residue analytical method	40431423	SYNGENTA	OWN	
860.1340	Residue analytical method	40431424	SYNGENTA	OWN	
860.1340	Residue analytical method	40431425	SYNGENTA	OWN	
860.1340	Residue analytical method	40431426	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	40843301	SYNGENTA	OWN	
860.1340	Residue analytical method	41258601	SYNGENTA	OWN	
860.1340	Residue analytical method	41258602	SYNGENTA	OWN	
860.1340	Residue analytical method	41258603	SYNGENTA	OWN	
860.1340	Residue analytical method	41397102	SYNGENTA	OWN	
860.1340	Residue analytical method	41423401	SYNGENTA	OWN	
860.1340	Residue analytical method	42547117	SYNGENTA	OWN	
860.1340	Residue analytical method	43160501	SYNGENTA	OWN	
860.1340	Residue analytical method	43160502	SYNGENTA	OWN	
860.1340	Residue analytical method	43160503	SYNGENTA	OWN	
860.1340	Residue analytical method	43160504	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Ingredient: Atrazine					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	43160505	SYNGENTA	OWN	
860.1340	Residue analytical method	43395503	SYNGENTA	OWN	
860.1340	Residue analytical method	43395504	SYNGENTA	OWN	
860.1340	Residue analytical method	43598630	SYNGENTA	OWN	
860.1340	Residue analytical method	43598631	SYNGENTA	OWN	
860.1340	Residue analytical method	43598632	SYNGENTA	OWN	
860.1340	Residue analytical method	44152117	SYNGENTA	OWN	
860.1340	Residue analytical method	44152118	SYNGENTA	OWN	
860.1340	Residue analytical method	44152120	SYNGENTA	OWN	
860.1340	Residue analytical method	44152121	SYNGENTA	OWN	
860.1340	Residue analytical method	44315408	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	44315409	SYNGENTA	OWN	
860.1340	Residue analytical method	44315410	SYNGENTA	OWN	
860.1340	Residue analytical method	44315411	SYNGENTA	OWN	
860.1340	Residue analytical method	44315412	SYNGENTA	OWN	
860.1340	Residue analytical method	44597602	SYNGENTA	OWN	
860.1340	Residue analytical method	44597603	SYNGENTA	OWN	
860.1340	Residue analytical method	45399901	SYNGENTA	OWN	
860.1340	Residue analytical method	45399902	SYNGENTA	OWN	
860.1340	Residue analytical method	45545304	SYNGENTA	OWN	
860.1340	Residue analytical method	46839502	SYNGENTA	OWN	
860.1340	Residue analytical method	47629801	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	47629802	SYNGENTA	OWN	
860.1340	Residue analytical method	47629803	SYNGENTA	OWN	
860.1340	Residue analytical method	48346602	SYNGENTA	OWN	
860.1380	Storage stability data	47377501	SYNGENTA	OWN	
860.1400	Irrigated crops	00153235	SYNGENTA	OWN	
860.1400	Irrigated crops	40431340	SYNGENTA	OWN	
860.1500	Crop field trials	44315412	SYNGENTA	OWN	
860.1500	Crop field trials	44597602	SYNGENTA	OWN	
860.1500	Crop field trials	44597603	SYNGENTA	OWN	
860.1500	Crop field trials	45399901	SYNGENTA	OWN	
860.1500	Crop field trials	45399902	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1500	Crop field trials	47089001	SYNGENTA	OWN	
860.1500	Crop field trials	47089002	SYNGENTA	OWN	
860.1500	Crop field trials	47377502	SYNGENTA	OWN	
860.1500	Crop field trials	48487001	SYNGENTA	OWN	
860.1520	Processed food/feed	47089002	SYNGENTA	OWN	
860.1850	Confined accumulation in rotational crops	43016505	SYNGENTA	OWN	
860.1900	Field accumulation in rotational crops	45622301	SYNGENTA	OWN	
860.1900	Field accumulation in rotational crops	47377502	SYNGENTA	OWN	
860.1900	Field accumulation in rotational crops	48487001	SYNGENTA	OWN	
850.1010	Aquatic invertigrade acute toxicity test, freshwater dap	42041401	SYNGENTA	OWN	
850.1010	Aquatic invertigrade acute toxicity test, freshwater dap	45227706	US EPA	PUBLIC	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1010	Aquatic invertibrate acute toxicity test, freshwater dap	46500001	SYNGENTA	OWN	
850.1010	Aquatic invertibrate acute toxicity test, freshwater dap	47046101	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	00027094	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	43344901	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	43344902	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	45202920	US EPA	PUBLIC	
850.1025	Oyster acute toxicity test (shell deposition)	46500002	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	46500003	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	46500006	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	46648201	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	00027094	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1035	Mysid acute toxicity test	43344901	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	43344902	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	45202920	US EPA	PUBLIC	
850.1035	Mysid acute toxicity test	46500002	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	46500003	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	46500006	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	46648201	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	00027094	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	43344901	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	43344902	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	45202920	US EPA	PUBLIC	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Form Approved OMB No. 2070-0060

401 M Street  
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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-1207

Page 106 of 113

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1045	Penaeid acute toxicity test	46500002	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	46500003	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	46500006	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	46648201	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	00027094	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	43344901	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	43344902	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	45202920	US EPA	PUBLIC	
850.1055	Bivalve acute toxicity test (embryo larval)	46500002	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	46500003	SYNGENTA	OWN	
850.1055	Bivalve acute toxicity test (embryo larval)	46500006	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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## DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1055	Bivalve acute toxicity test (embryo larval)	46648201	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	00027094	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	00031150	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	00043665	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	00106510	CIBA SPECIALTY CH	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	43344901	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	43344902	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	45202912	US EPA	PUBLIC	
850.1075	Fish acute toxicity test, freshwater and marine	45202920	US EPA	PUBLIC	
850.1075	Fish acute toxicity test, freshwater and marine	46500002	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	46500003	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1075	Fish acute toxicity test, freshwater and marine	46500004	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	46500005	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	46500006	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	46648201	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	47046103	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	47046104	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024711	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024712	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024713	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024714	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024716	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1300	Daphnid chronic toxicity test	00024717	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00024718	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	00048748	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	45299504	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	46648202	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	46648203	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024711	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024712	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024713	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024714	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024716	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1350	Mysid chronic toxicity test	00024717	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00024718	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	00048748	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	45299504	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	46648202	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	46648203	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	46952601	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024711	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024712	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024713	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024714	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1400	Fish early-life stage toxicity test	00024716	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024717	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00024718	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	00048748	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	45299504	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	46648202	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	46648203	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	46952602	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	46952603	SYNGENTA	OWN	
850.1400	Fish early-life stage toxicity test	46952604	SYNGENTA	OWN	
850.1500	Fish life cycle toxicity	42547103	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1500	Fish life cycle toxicity	43345701	SYNGENTA	OWN	
850.1500	Fish life cycle toxicity	45208304	US EPA	PUBLIC	
850.1730	Accumulation in fish -- waiver	00153235	SYNGENTA	OWN	
850.1730	Accumulation in fish -- waiver	40431344	SYNGENTA	OWN	
850.1950	Field testion for aquatic organisms	00043665	SYNGENTA	OWN	
850.1950	Field testion for aquatic organisms	00153235	SYNGENTA	OWN	
850.1950	Field testion for aquatic organisms	40431340	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	00024722	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	46500007	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	46500008	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	46500009	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012





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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-1207

Page 113 of 113

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: ATRAZINE TECHNICAL

Ingredient: Atrazine

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.2200	Avian dietary toxicity test	00023461	Geigy	OWN	.
850.2200	Avian dietary toxicity test	00024715	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	00024721	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	00024723	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	00092459	SYNGENTA	OWN	
850.2300	Avian reproduction test	42547101	SYNGENTA	OWN	
850.2300	Avian reproduction test	42547102	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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## Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Syngenta Crop Protection, LLC, PO Box 18300, Greensboro, NC 27419	EPA Registration Number/File Symbol 100-815
Active Ingredient(s) and/or representative test compound(s) S-Metolachlor	Date September 28, 2012
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Food Uses	Product Name S-Metolachlor Technical

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-in Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

## SECTION I: METHOD OF DATA SUPPORT (Check one method only)

- ☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).
- ☒ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

## SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application to the extent required by FIFRA.

## SECTION III: CERTIFICATION

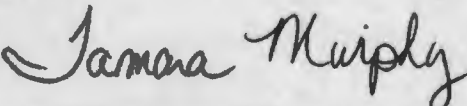
I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature 	Date 9-28-2012	Typed or Printed Name and Title TAMARA MURPHY NAFTA Regulatory Product Manager
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EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

E-SUBMISSION



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-815

Page 1 of 21

Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
Cite-All	Cite-All	Cite-All (AHE	AGRICULTURAL HAN	PER	
Cite-All	Cite-All	Cite-All (ART	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (FES	FIFRA ENDANGERED	PER	
Cite-All	Cite-All	Cite-All (ORE	OUTDOOR RESIDEN	PER	
Cite-All	Cite-All	Cite-All (REJ	RESIDENTIAL EXPOS	PER	
Cite-All	Cite-All	Cite-All (SDT	SPRAY DRIFT TF	PER	
830 Group A	Product identity and composition, Analysis and certifi	43928905	SYNGENTA	OWN	
830 Group A	Product identity and composition, Analysis and certifi	45672301	SYNGENTA	OWN	
830 Group B	Group B -- Physical/Chemical Properties	43928905	SYNGENTA	OWN	
830 Group B	Group B -- Physical/Chemical Properties	45672301	SYNGENTA	OWN	
830.0000	Product identity and composition	43928901	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012

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## DATA MATRIX

Date: 9/28/2012

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
830.0000	Product identity and composition	43928902	SYNGENTA	OWN	
830.0000	Product identity and composition	43928903	SYNGENTA	OWN	
830.6313	Stability to normal and elevated temperatures, metals,	44183001	SYNGENTA	OWN	
830.6317	Storage Stability	43928903	SYNGENTA	OWN	
830.6317	Storage Stability	44183001	SYNGENTA	OWN	
850 Series	Ecological Effects	44303501	SYNGENTA	OWN	
850 Series	Ecological Effects	44931721	SYNGENTA	OWN	
870 Series	Health Effects Tests	43928904	SYNGENTA	OWN	
870 Series	Health Effects Tests	45499602	SYNGENTA	OWN	
870 Series	Health Effects Tests	45499604	SYNGENTA	OWN	
870 Series	Health Effects Tests	45499605	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.1100	Acute oral toxicity	43928915	SYNGENTA	OWN	
870.1100	Acute oral toxicity	44929504	SYNGENTA	OWN	
870.1100	Acute oral toxicity	44931704	SYNGENTA	OWN	
870.1100	Acute oral toxicity	44991101	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	43928916	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	44929505	SYNGENTA	OWN	
870.1200	Acute dermal toxicity	44931705	SYNGENTA	OWN	
870.1300	Acute inhalation toxicity	43928917	SYNGENTA	OWN	
870.2400	Acute eye irritation	43928918	SYNGENTA	OWN	
870.2400	Acute eye irritation	44929506	SYNGENTA	OWN	
870.2400	Acute eye irritation	44931706	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-815

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.2500	Acute dermal irritation	43928919	SYNGENTA	OWN	
870.2500	Acute dermal irritation	44929507	SYNGENTA	OWN	
870.2500	Acute dermal irritation	44931707	SYNGENTA	OWN	
870.2600	Skin sensitization	43928920	SYNGENTA	OWN	
870.2600	Skin sensitization	43928921	SYNGENTA	OWN	
870.2600	Skin sensitization	44929508	SYNGENTA	OWN	
870.2600	Skin sensitization	44931708	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43928922	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	43928923	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44775402	SYNGENTA	OWN	
870.3100	90-Day oral toxicity	44929509	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.3100	90-Day oral toxicity	44931709	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43928922	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	43928923	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44775402	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44929509	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	44931709	SYNGENTA	OWN	
870.3150	Subchronic nonrodent oral toxicity - 90-day	46829511	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	43928924	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	43928925	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44929510	SYNGENTA	OWN	
870.3700	Prenatal developmental toxicity study	44931711	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.5000	Genetic Toxicity tests	43928926	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43928927	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	43928928	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44929511	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44929512	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44931712	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44931713	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44931714	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	44991102	SYNGENTA	OWN	
870.5000	Genetic Toxicity tests	45001201	SYNGENTA	OWN	
870.5300	In vitro mammalian cell gene mutation test	45001201	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
870.7485	Metabolism and pharmacokinetics	44491401	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44491402	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44931715	SYNGENTA	OWN	
870.7485	Metabolism and pharmacokinetics	44931716	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	44929513	SYNGENTA	OWN	
850.4100	Terrestrial plant toxicity, Tier I (seedling emergence)	44931718	SYNGENTA	OWN	
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	44929513	SYNGENTA	OWN	
850.4150	Terrestrial plant toxicity, Tier I (vegetative vigor)	44931718	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	43928932	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	43928933	SYNGENTA	OWN	
850.4200	Seed germination/root elongation toxicity test	44929513	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4200	Seed germination/root elongation toxicity test	44931718	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	43928932	SYNGENTA	OWN	
850.4225	Seedling emergence, Tier 2	43928933	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	43928932	SYNGENTA	OWN	
850.4250	Vegetative vigor, Tier 2	43928933	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43928929	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43928930	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	43928931	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44929514	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44929515	SYNGENTA	OWN	
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44931719	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.4400	Aquatic plant toxicity test using Lemna spp. Tiers I an	44931720	SYNGENTA	OWN	
850.4450	Aquatic plants field study, Tier 3	46861401	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43928929	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43928930	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	43928931	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44929514	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44929515	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44931719	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	44931720	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	46829509	SYNGENTA	OWN	
850.5400	Algal toxicity, Tiers 1 and 2	46829510	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.7100	Data reporting for environmental chemistry methods	46829513	SYNGENTA	OWN	
850.3020	Honey bee acute contact toxicity	44718401	SYNGENTA	OWN	
850.3020	Honey bee acute contact toxicity	44718402	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	44303502	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	45527501	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	45527502	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	45527503	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	46224201	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	46224202	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	46484201	SYNGENTA	OWN	
160 Series	Environmental Fate supplementary data	46818801	SYNGENTA	OWN	

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Ingredient: Smetolachlor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
160 Series	Environmental Fate supplementary data	46829514	SYNGENTA	OWN	
161-3	Photodegradation in soil - laboratory	43928935	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	43928936	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	44043401	SYNGENTA	OWN	
162-1	Aeroic Soil metabolism	45499606	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	43928937	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	43928938	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	44931722	SYNGENTA	OWN	
163-1	Leaching and adsorption/desorption -- laboratory	45608301	SYNGENTA	OWN	
164-1	Soil dissipation -- field	45848001	SYNGENTA	OWN	
164-1	Soil dissipation -- field	46829512	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
166-1	Small Scale Prespective Groundwater Monitoring Stud	44226602	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	44262102	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45533101	SYNGENTA	OWN	
166-1	Small Scale Prespective Groundwater Monitoring Stud	45533102	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45527501	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45527502	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45533103	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45555901	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45555902	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	45917401	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	46224201	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860 Series	Residue Chemistry Test Guidelines	46224202	SYNGENTA	OWN	
860 Series	Residue Chemistry Test Guidelines	46829514	SYNGENTA	OWN	
860.1000	Background	46046501	SYNGENTA	OWN	
860.1000	Background	46046502	SYNGENTA	OWN	
860.1000	Background	46046503	SYNGENTA	OWN	
860.1000	Background	46046504	SYNGENTA	OWN	
860.1000	Background	46046505	SYNGENTA	OWN	
860.1000	Background	46829501	SYNGENTA	OWN	
860.1000	Background	46829502	SYNGENTA	OWN	
860.1000	Background	46829503	SYNGENTA	OWN	
860.1000	Background	46829504	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1100	Chemical identity	47304701	SYNGENTA	OWN	
860.1100	Chemical identity	47304702	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	43928939	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	44516801	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499607	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499608	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499609	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499610	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499611	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45499612	SYNGENTA	OWN	
860.1300	Nature of the residue -- plants, livestock	45848002	SYNGENTA	OWN	

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Ingredient: Smetolachlor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1340	Residue analytical method	43928940	SYNGENTA	OWN	
860.1340	Residue analytical method	43928941	SYNGENTA	OWN	
860.1340	Residue analytical method	43928942	SYNGENTA	OWN	
860.1340	Residue analytical method	44516801	SYNGENTA	OWN	
860.1340	Residue analytical method	44516802	SYNGENTA	OWN	
860.1340	Residue analytical method	44667401	SYNGENTA	OWN	
860.1340	Residue analytical method	45499611	SYNGENTA	OWN	
860.1340	Residue analytical method	45499612	SYNGENTA	OWN	
860.1340	Residue analytical method	46046506	SYNGENTA	OWN	
860.1340	Residue analytical method	46829512	SYNGENTA	OWN	
860.1500	Crop field trials	44516802	SYNGENTA	OWN	

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419 Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1500	Crop field trials	44667401	SYNGENTA	OWN	
860.1500	Crop field trials	46046501	SYNGENTA	OWN	
860.1500	Crop field trials	46046502	SYNGENTA	OWN	
860.1500	Crop field trials	46046503	SYNGENTA	OWN	
860.1500	Crop field trials	46046504	SYNGENTA	OWN	
860.1500	Crop field trials	46046505	SYNGENTA	OWN	
860.1500	Crop field trials	46707501	IR-4	PER	
860.1500	Crop field trials	46829501	SYNGENTA	OWN	
860.1500	Crop field trials	46829502	SYNGENTA	OWN	
860.1500	Crop field trials	46829503	SYNGENTA	OWN	
860.1500	Crop field trials	46829504	SYNGENTA	OWN	

*Tamara Murphy*

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1500	Crop field trials	47121701	SYNGENTA	OWN	
860.1500	Crop field trials	47121702	SYNGENTA	OWN	
860.1500	Crop field trials	47304701	SYNGENTA	OWN	
860.1500	Crop field trials	47304702	SYNGENTA	OWN	
860.1500	Crop field trials	47829401	IR-4	PER	
860.1500	Crop field trials	47829402	IR-4	PER	
860.1500	Crop field trials	47829403	IR-4	PER	
860.1500	Crop field trials	47829404	IR-4	PER	
860.1500	Crop field trials	47829405	IR-4	PER	
860.1500	Crop field trials	47829406	IR-4	PER	
860.1500	Crop field trials	47829407	IR-4	PER	

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Ingredient: Smetolachlor					
Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1500	Crop field trials	47829408	IR-4	PER	
860.1500	Crop field trials	48536501	SYNGENTA	OWN	
860.1520	Processed food/feed	46046501	SYNGENTA	OWN	
860.1520	Processed food/feed	46829504	SYNGENTA	OWN	
860.1520	Processed food/feed	47121701	SYNGENTA	OWN	
860.1520	Processed food/feed	47121702	SYNGENTA	OWN	
860.1550	Proposed tolerances	47829401	IR-4	PER	
860.1550	Proposed tolerances	47829402	IR-4	PER	
860.1550	Proposed tolerances	47829403	IR-4	PER	
860.1550	Proposed tolerances	47829404	IR-4	PER	
860.1550	Proposed tolerances	47829405	IR-4	PER	

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## DATA MATRIX

Date: 9/28/2012

Reg. No:100-815

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
860.1550	Proposed tolerances	47829406	IR-4	PER	
860.1550	Proposed tolerances	47829407	IR-4	PER	
860.1550	Proposed tolerances	47829408	IR-4	PER	
860.1850	Confined accumulation in rotational crops	45672302	SYNGENTA	OWN	
850.1010	Aquatic invertigrate acute toxicity test, freshwater dap	43928912	SYNGENTA	OWN	
850.1010	Aquatic invertigrate acute toxicity test, freshwater dap	44929503	SYNGENTA	OWN	
850.1010	Aquatic invertigrate acute toxicity test, freshwater dap	44931703	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	43928913	SYNGENTA	OWN	
850.1025	Oyster acute toxicity test (shell deposition)	46829505	SYNGENTA	OWN	
850.1035	Mysid acute toxicity test	43928913	SYNGENTA	OWN	
850.1045	Penaeid acute toxicity test	43928913	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012



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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1055	Bivalve acute toxicity test (embryo larval)	43928913	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	43928910	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	43928911	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	43928913	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44929501	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44929502	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	44931702	SYNGENTA	OWN	
850.1075	Fish acute toxicity test, freshwater and marine	46829506	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	44995902	SYNGENTA	OWN	
850.1300	Daphnid chronic toxicity test	46829507	SYNGENTA	OWN	
850.1350	Mysid chronic toxicity test	44995902	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

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Syngenta Crop Protection, LLC, P.O. Box 18300, Greensboro, NC 27419

Product: S-METOLACHLOR TECHNICAL

Ingredient: Smetolachlor

Guideline Reference Number	Name	MRID	Submitter	Status	Notes
850.1400	Fish early-life stage toxicity test	44995902	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	43928906	SYNGENTA	OWN	
850.2100	Avian acute oral toxicity test	43928907	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	43928908	SYNGENTA	OWN	
850.2200	Avian dietary toxicity test	43928909	SYNGENTA	OWN	
850.2300	Avian reproduction test	44995901	SYNGENTA	OWN	

Tamara Murphy, Regulatory Product Manager

Date: 9/28/2012

